TOSHIBA

FILE NO. 020-200304

SERVICE MANUAL

COLOR TELEVISION

N3NS Chassis

32AF43, 32AF53

(TAC0313) *(TAC0314)*

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CHAPTER 1 GENERAL ADJUSTMENTS

SAFETY INSTRUCTIONS

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" INSTRUCTIONS BELOW.

X-RAY RADIATION PRECAUTION

1. Excessive high voltage can produce potentially hazardous X-RAY RADIATION. To avoid such hazards, the high voltage must not be above the specified limit. The nominal value of the high voltage of this receiver is (A) kV at zero beam current (minimum brightness) under a 120V AC power source. The high voltage must not, under any circumstances, exceed (B) kV.

   Refer to table-1 for high voltage (A), (B).
   (See SETTING & ADJUSTING DATA on page 13)

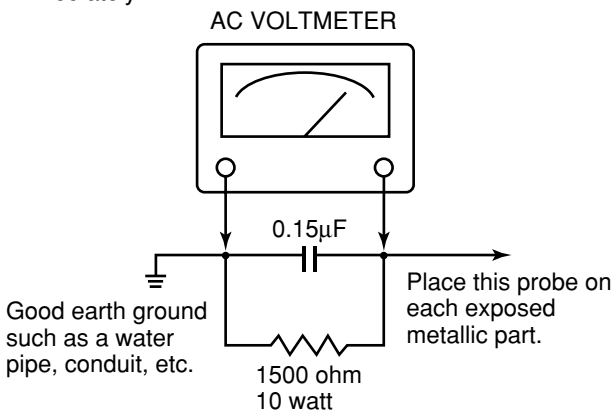
   Each time a receiver requires servicing, the high voltage should be checked following the HIGH VOLTAGE CHECK procedure in this manual. It is recommended that the reading of the high voltage be recorded as a part of the service record. It is important to use an accurate and reliable high voltage meter.
2. This receiver is equipped with a Fail Safe (FS) circuit which prevents the receiver from producing an excessively high voltage even if the B+ voltage increases abnormally. Each time the receiver is serviced, the FS circuit must be checked to determine that the circuit is properly functioning, following the FS CIRCUIT CHECK procedure in this manual.
3. The only source of X-RAY RADIATION in this TV receiver is the picture tube. For continued X-RAY RADIATION protection, the replacement tube must be exactly the same type tube as specified in the parts list.
4. Some part in this receiver have special safety-related characteristics for X-RAY RADIATION protection. For continued safety, parts replacement should be undertaken only after referring to the PRODUCT SAFETY NOTICE below.

SAFETY PRECAUTION

WARNING : Service should not be attempted by anyone unfamiliar with the necessary precautions on this receiver. The following are the necessary precautions to be observed before servicing this chassis.

1. An isolation Transformer should be connected in the power line between the receiver and the AC line before any service is performed on the receiver.
2. Always discharge the picture tube anode to the CRT conductive coating before handling the picture tube. The picture tube is highly evacuated and if broken, glass fragments will be violently expelled. Use shatter proof goggles and keep picture tube away from the unprotected body while handling.
3. When replacing a chassis in the cabinet, always be certain that all the protective devices are put back in place, such as; non-metallic control knobs, insulating covers, shields, isolation resistor-capacitor network etc.
4. Before returning the set to the customer, always perform an AC leakage current check on the exposed metallic parts of the cabinet, such as antennas, terminals, screwheads, metal overlays, control shafts etc. to be sure the set is safe to operate without danger of electrical shock. Plug the AC line cord directly into a 120V AC outlet (do not use a line isolation transformer during this check). Use an AC voltmeter having 5000 ohms per volt or more sensitivity in the following manner:

   Connect a 1500 ohm 10 watt resistor, paralleled by a 0.15 μF, AC type capacitor, between a known good earth ground (water pipe, conduit, etc.) and the exposed metallic parts, one at a time. Measure the AC voltage across the combination of 1500 ohm resistor and 0.15 μF capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part. Voltage measured must not exceed 0.3 volts rms. This corresponds to 0.2 milliamp. AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.


AC VOLTMETER
0.15μF
Good earth ground such as a water pipe, conduit, etc.
Place this probe on each exposed metallic part.
1500 ohm
10 watt

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the international hazard symbols on the schematic diagram and the parts list.
Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create shock, fire, X-ray radiation or other hazards.

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 3 OF SERVICE MANUAL.

SET-UP ADJUSTMENT

■ The following adjustments should be made when a complete realignment is required or a new picture tube is installed. Perform the adjustments in order as follows :

1. Color Purity
2. Convergence
3. White Balance

Note: The PURITY/CONVERGENCE MAGNET assembly and rubber wedges need mechanical positioning. Refer to figure 1.

COLOR PURITY ADUSTMENT

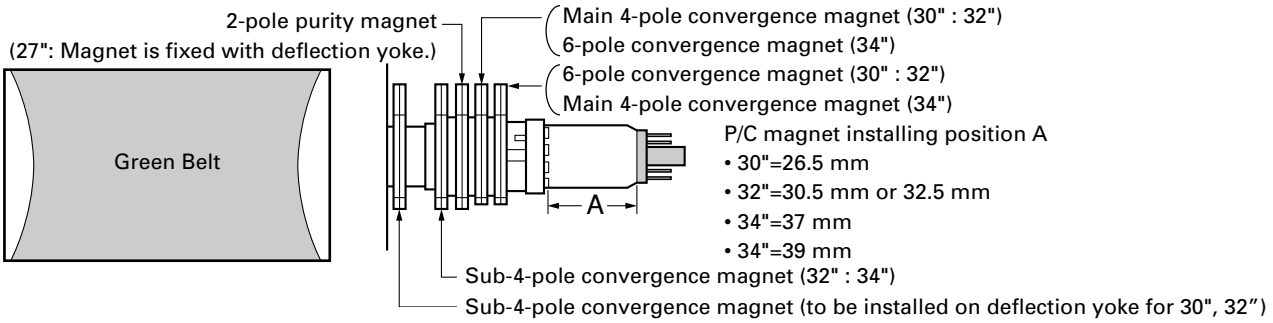
(1) Let the screen face in the installing direction or toward the east (when it is to be moved), bring up the service mode screen after demagnetizing (front, left, right, and top) with the degaussing coil, receive white signals by pressing the [TV/VIDEO] button, and then the receiver should be operated for more than 40 minutes.

(2) Perform rough adjustment of the central convergence with the P/C magnet according to the adjustment item.

(3) Receive built-in green signals, loosen set screws on the deflection yoke, remove rubber wedges, and shift the deflection yoke to toward front.

(4) Move alternately the two 2-pole magnets of the P/C magnets so that the green raster can come to the center of the screen.

Figure 1.

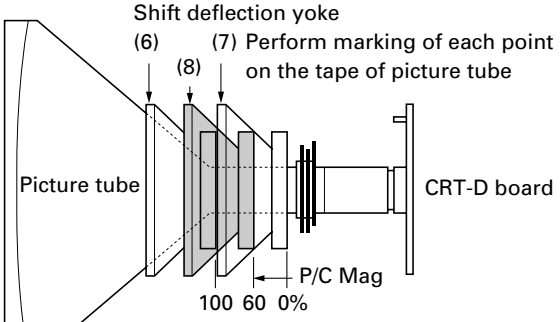

2-pole purity magnet
(27": Magnet is fixed with deflection yoke.)
Green Belt
Main 4-pole convergence magnet (30" : 32")
6-pole convergence magnet (34")
6-pole convergence magnet (30" : 32")
Main 4-pole convergence magnet (34")
P/C magnet installing position A
• 30"=26.5 mm
• 32"=30.5 mm or 32.5 mm
• 34"=37 mm
• 34"=39 mm
A
Sub-4-pole convergence magnet (32" : 34")
Sub-4-pole convergence magnet (to be installed on deflection yoke for 30", 32")

(5) Receive built-in red and blue signals, check that there is no inclination of the single color raster toward one side, and if each color tilts to a great extent, make adjustment with the 2-pole magnet so that the 3 colors will come to the center evenly.

(6) Receive the green raster, shift the deflection yoke from a foremost position (hitting against the picture tube) to a backward position horizontally, stop the deflection yoke at a position where it begins to become a green raster, and perform accurate marking on the picture tube.

(7) Shift the deflection yoke further backward, and perform accurate marking at a position where the green raster begins to being luck.

(8) Fix the deflection yoke at a position 60% forward within the range marked in items (6) and (7) above.



Fix the deflection yoke at a position 60% forward from a point between (6) and (7)

CONVERGENCE ADJUSTMENTS

* Adjust the convergence magnet to get vest convergence in the order to (1) ~ (5).

■ CENTER CONVERGENCE:

(1) Receive the white crosshatch or dot pattern from the service signal generator.

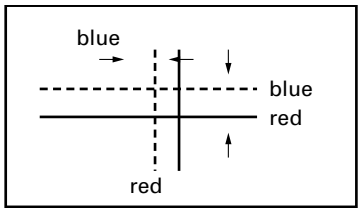
(2) Use the 2 pieces of main 4-pole magnets of P/C magnets, change the open angle, and align the red and blue vertical lines on the screen center.

(3) Freeze the open angle of the main 4-pole magnets, turn them simultaneously, and align the horizontal lines.

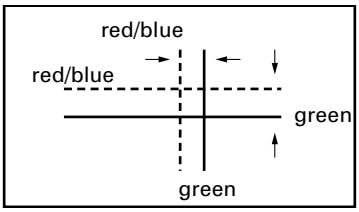
(4) Take the same steps for items (2) and (3) above and align red/blue with green on the screen center using two 6-pole magnets.

(5) Adjust the sub-4-pole magnets only in case there is any deviation of Xv bow-shaped convergence. (To be usually set at the initial position)

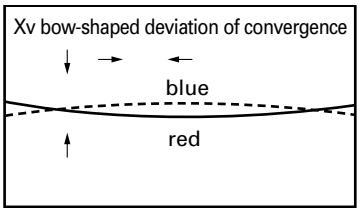
Align both sides with the sub-4-pole magnets and minimize the deviation of blue and red with the main 4-pole magnets.



Main 4-pole magnet



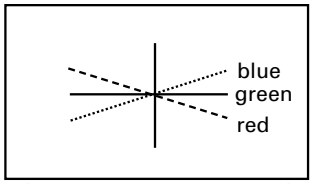
6-pole magnet

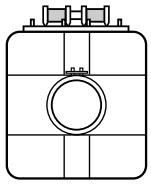


Sub-4-pole magnet

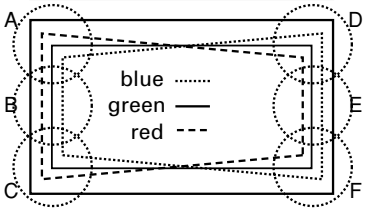
■ CIRCUMFERENCE CONVERGENCE:

* Perform correction in the following manner.

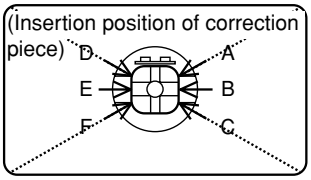




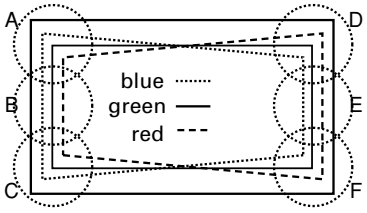
• Adjust coils and minimize deviation
(The 27" unit has coils underneath it)



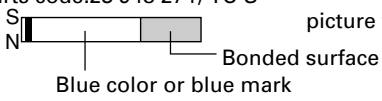
(Parts code:23 948 274) TC-S

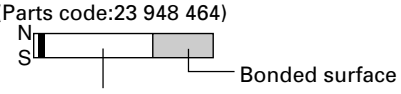


*Insert the correction piece between the picture tube and the deflection yoke.

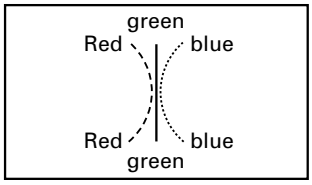


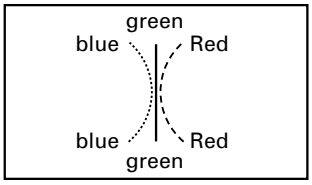
(Parts code:23 948 464)



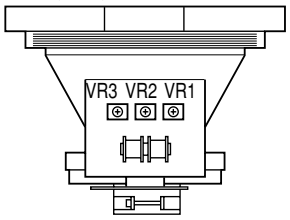


Adjust VR 1 and minimize the deviation of YH. *Only 27", 30" and 32".

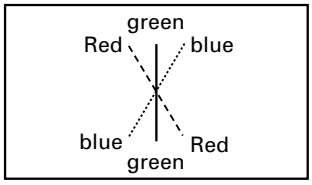


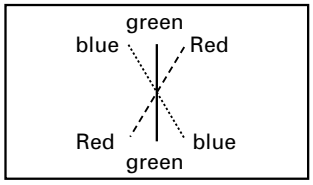


■ 30", 27", 32"

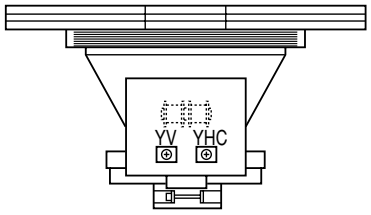


Adjust VR 2 (YHC) and minimize the deviation of YH.

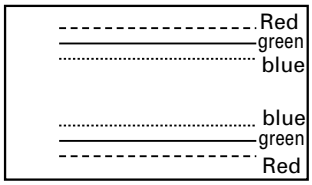


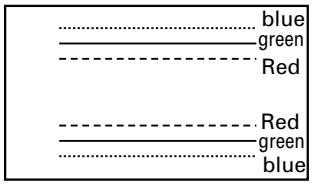


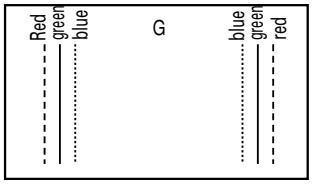
■ 34"

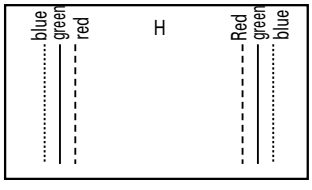


Adjust VR 3 (YV) and minimize the deviation of YV.

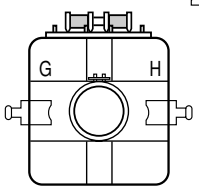








27" (Part No. 23 947 371)
32", 30" (Part No. 23 947 121)
34" (Part No. 23 993 080)



Perform correction by inserting the correction piece into the clearance of terminal board coils of the deflection yoke.

Note:

Perform insertion by turning the metal side to the terminal board side of the deflection yoke.

SERVICE MODE

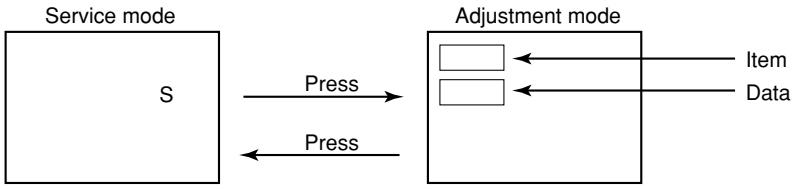
1. ENTERING TO SERVICE MODE

1) Press MUTE button once on Remote Control.
2) Press MUTE button again to keep pressing.
3) While pressing the MUTE button, press MENU button on TV set.

(Service mode display)

2. DISPLAYING THE ADJUSTMENT MENU

1) Press MENU button on TV.



3. KEY FUNCTION IN THE SERVICE MODE

The following key entry during display of adjustment menu provides special functions.

A single horizontal line ON/OFF:	TV (ANT)/VIDEO button (on TV)
Test signal selection :	TV (ANT)/VIDEO button (on Remote)
Selection of the adjustment items :	Channel ▲/▼ (on TV or Remote)
Change of the data value :	Volume ▲/▼ (on TV or Remote)
Adjustment menu mode ON/OFF :	MENU button (on TV)
Initialization of the memory (QA02) :	RECALL+Channel button on TV (▲)
Initialization of the self diagnostic data:	RECALL+Channel button on TV (▼)

“RCUT” selection :	1 button
“GCUT” selection :	2 button
“BCUT” selection :	3 button
“SCNT” selection :	4 button
“COLC” selection :	5 button
“TNTC” selection :	6 button
Self diagnostic display ON/OFF :	9 button

4. SELECTING THE ADJUSTING ITEMS

1) Every pressing of CHANNEL ▲ button in the service mode changes the adjustment items in the order of table-2. (▼ button for reverse order)

Refer to table-2 for preset data of adjustment mode.
(See SETTING & ADJUSTING DATA on page 13)

5. ADJUSTING THE DATA

1) Pressing of VOLUME ▲ or ▼ button will change the value of data in the range from 00H to FFH. The variable range depends on the adjusting item.

6. EXIT FROM SERVICE MODE

1) Pressing POWER button to turn off the TV once.

■ INITIALIZATION OF MEMORY DATA OF QA02

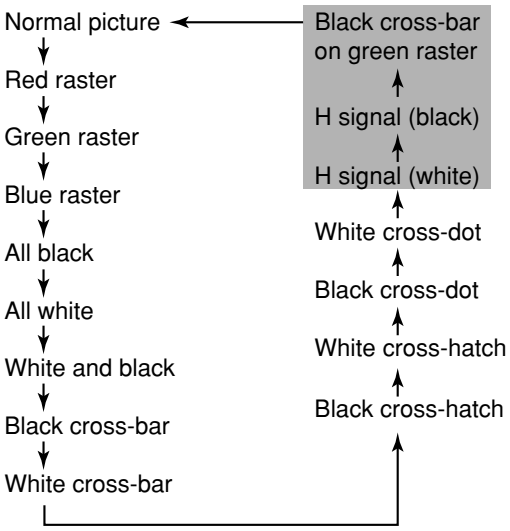
After replacing QA02, the following initialization is required.

1. Enter the service mode, then select any register item.
2. Press and hold the RECALL button on the Remote, then press the CHANNEL ▲ button on the TV. The initialization of QA02 has been complated.
3. Check the picture carefully. If necessary, adjust any adjustment item above. Perform “Programming Channel Memory” on the owner’s manual.

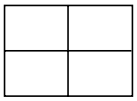
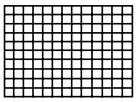
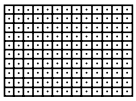
CAUTION: Never attempt to initialize the data unless QA02 has been replaced.

7. TEST SIGNAL SELECTION

1) Every pressing of TV/VIDEO button on the Remote Control in the Service mode, changes the built-in test patterns on screen in the following order.



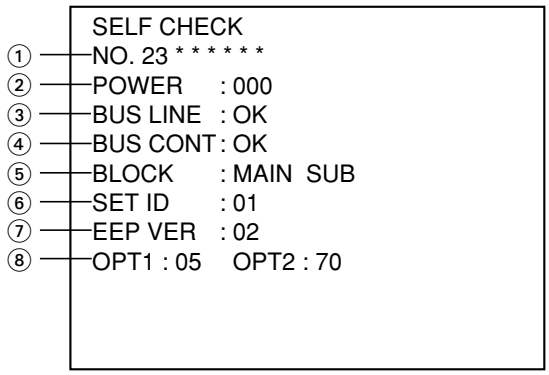
Note: If the video cable is connected to the VIDEO1 INPUT jack, the built-in pattern signals are not displayed.

Signals	Picture
• Red raster • Green raster • Blue raster • All Black • All White	
• Black & White	
• Black cross-bar • White cross-bar • Black cross-bar on green raster	
• Black cross-hatch • White cross-hatch	
• Black cross-dot • White cross-dot	
• H signal (white) • H signal (black)	

* The signals marked with ▒ are not usable to display in the Test signal for some model.

8. SELF DIAGNOSTIC FUNCTION

1) Press “9” button on Remote Control during display of adjustment menu in the service mode.
   The diagnosis will begin to check if interface among IC’s are executed properly.
2) During diagnosis, the following displays are shown.



① Part number of microprocessor (QA01)
② Operation number of protection circuit (current limiter) . . . . “000” is normal.
③ BUS line check
- “OK” ..... Normal
- “NG” ..... SCL-GND or SAD-GND short circuit

④ BUS line ACK (acknowledge) check
- “OK” ..... Normal
- Display of Location Number . . . . NG
  (Display example)
  “QA02 NG”, “H001 NG”, “Q501 NG” etc.
  Note: The indication of failure place is only one place though failure places are plural. When repair of a failure place finishes, the next failure place is indicated. (The order of priority of indication is left side.)

⑤ Sync. signal check
- Green display ..... Normal
- Cyan display ..... No check
- Red display ..... NG

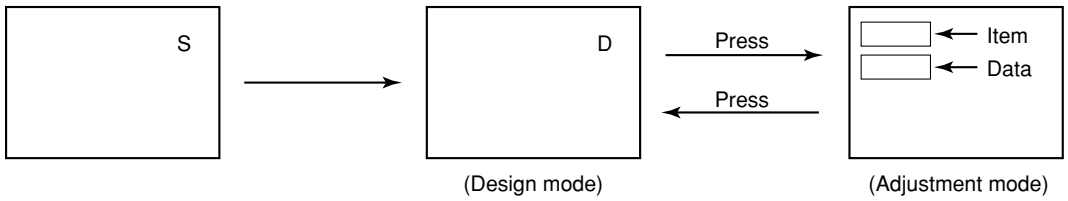
⑥ SET ID : 01 ← SET ID
⑦ EEP VER : 02 ← E2P version
⑧ OPT1 : 05 OPT2 : 70 ← OPT DATA

***** The item marked with ■ are not usable to display in the SELF DIAGNOSTIC FUNCTION for some model.

DESIGN MODE

1. ENTERING TO DESIGN MODE

1) Select the Service mode. 2) While pressing RECALL button on Remote and press MENU button on TV. 3) Press MENU button on TV.



When QA02 is initialized, items “OPT0” and “OPT1” and "OPT2" of DESIGN MODE are set to the data of the representative model of this chassis family.
Therefore, because ON-SCREEN specification remains in the state of the representative of model. This model is required to reset the data of items “OPT0” and “OPT1” and "OPT2".

2. SELECTING THE ADJUSTING ITEMS

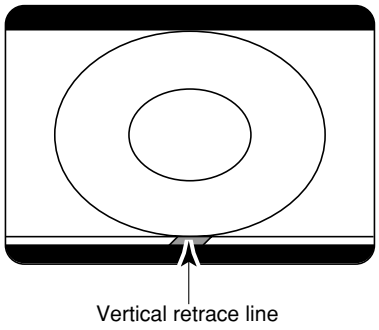
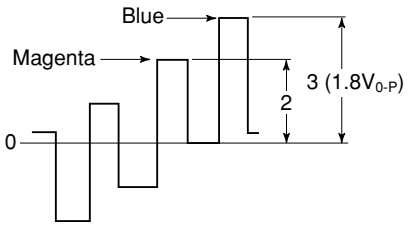
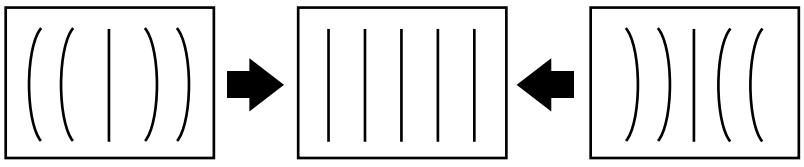
Every pressing of CHANNEL ▼ button in the design mode changes the adjustment items in the order of table-3.
(▲ button for reverse order)

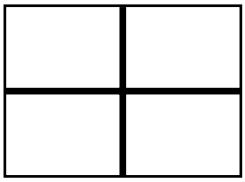
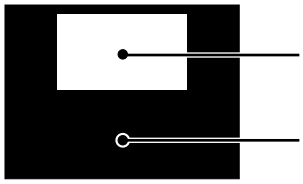
Refer to table-3 for data of design mode.
(See SETTING & ADJUSTING DATA on page 13)

3. ADJUSTING THE DATA

Pressing of VOLUME ▲ or ▼ button will change the value of data.

ELECTRICAL ADJUSTMENT

ITEM	ADJUSTMENT PROCEDURE
FOCUS VR ADJ	1. Enter the service mode, then select any register item. 2. Press the TV/VIDEO button on the Remote until the black cross-bar pattern appears on the screen. 3. Adjust the FOCUS control (on T461) for well defined scanning lines on the picture screen.
SUB-BRIGHTNESS (BRTC)	1. Constrict the picture height until the vertical retrace line appears adjusting the HEIGHT control on the MAIN board. 2. Adjust the CONTRAST to the minimum and BRIGHTNESS to the center. 3. Enter the service mode, then select "**BRTC**" register. 4. Adjust the data value so the belt of vertical retrace line just disappear. 5. Adjust the CONTRAST for the desired contrast. 6. Adjust the HEIGHT control. 
SUB-COLOR (COLC) SUB-TINT (TNTC)	1. Receive color-bar signal from color-bar generator. 2. Press the RESET button. 3. Connect oscilloscope to base of Q906 on CRT-D board. 4. Enter the service mode, then select "**COLC**". 5. Adjust the SUB-COLOR by pressing the VOLUME ▲ or ▼ button to achieve about $1V_{0\text{-}p}$ of blue bar. 6. Select "**TNTC**" register. 7. Adjust the data value to obtain the blue bar to magenta bar ratio of 3:2 as shown. 8. Select "**COLC**" register. 9. Adjust the data value to achieve $1.8V_{0\text{-}p}$ of blue bar on scope. 10. Check the picture with off-air signal. 
WIDTH (WID)	1. Call up the adjustment mode display, then select the item **WID**. 2. Press the VOLUME ▲ or ▼ button to get the picture so the left and right edges of raster begins to lack. 3. Press the VOLUME ▲ or ▼ button to advance the data by 7 steps. Note : Check the horizontal picture position is correct.
E-W PARABOLA (DPC)	1. Call up the adjustment mode display, then select the item **DPC**. 2. Press the TV/VIDEO button on Remote until the cross-hatch pattern appears on the screen. 3. Press the VOLUME ▲ or ▼ button to make vertical lines straight as shown below. 

<table>
<tr><th>ITEM</th><th>ADJUSTMENT PROCEDURE</th></tr>
<tr><td>HORIZONTAL POSITION
(HPOS)
VERTICAL POSITION
(VPOS)</td><td>1. Call up the adjustment mode display, then select the item HPOS or VPOS.
2. Press the TV/VIDEO button on Remote until the white cross-bar or black cross-bar pattern appears on the screen.
3. Adjust the HORIZONTAL and VERTICAL position alternately by pressing the VOLUME ▲ or ▼ button for proper picture position.
4. Check the picture with off-air signal.
  </td></tr>
<tr><td>HEIGHT
(HIT)</td><td>1. Call up the adjustment mode display, then select the item HIT.
2. Press the VOLUME ▲ or ▼ button to get the picture so the top of raster begins to lack.
3. Press the VOLUME ▲ button to advance the data by 9 steps.
Note : Check the vertical picture position is correct.</td></tr>
<tr><td>WHITE BALANCE
(RCUT)
(GCUT)
(BCUT)
(GDRV)
(BDRV)</td><td>1. Adjust the CONTRAST control to the center, and BRIGHTNESS control to the maximum.
2. Call up the adjustment mode display, and press the TV/VIDEO button on Remote until the white and black pattern appears on the screen.
3. Adjust the following item with the CHANNEL ▲/▼ and VOLUME ▲/▼ buttons.
RCUT ⟶ Data : 40H
GCUT ⟶ Data : 40H
BCUT ⟶ Data : 40H
GDRV ⟶ Data : 40H
BDRV ⟶ Data : 40H
4. Press the TV/VIDEO button on TV to display a single horizontal line on the screen.
5. Turn the SCREEN control (FBT) fully counterclockwise and gradually rotate clockwise until the first horizontal line appears slightly on the screen.
6. Press the TV/VIDEO button to display the normal picture.
7. Adjust the remaining two “?CUT” items (CHANNEL ▲/▼ → TV/VIDEO → VOLUME ▲/▼ in order) to obtain the slightly lighted horizontal line in the same levels of three (red, green, blue) colors. The line should be white if the adjustments are proper.
 
Bright area
Adjust "GDRV" or "BDRV" to be white.
Dark area
Fine adjust "RCUT", "GCUT" or "BCUT" to be black.</td></tr>
<tr><td>PIP SUB-BRIGHTNESS
(PBOF)</td><td rowspan="3">Adjust to match the PIP screen to the brightness, white balance and tint of the main picture.</td></tr>
<tr><td>PIP WHITE BALANCE
(PGOF, PROF)</td></tr>
<tr><td>PIP SUB-TINT
(PHUE)</td></tr>
</table>

CIRCUIT CHECKS

HIGH VOLTAGE CHECK

CAUTION: There is no HIGH VOLTAGE ADJUSTMENT on this chassis. Checking should be done following the steps below.

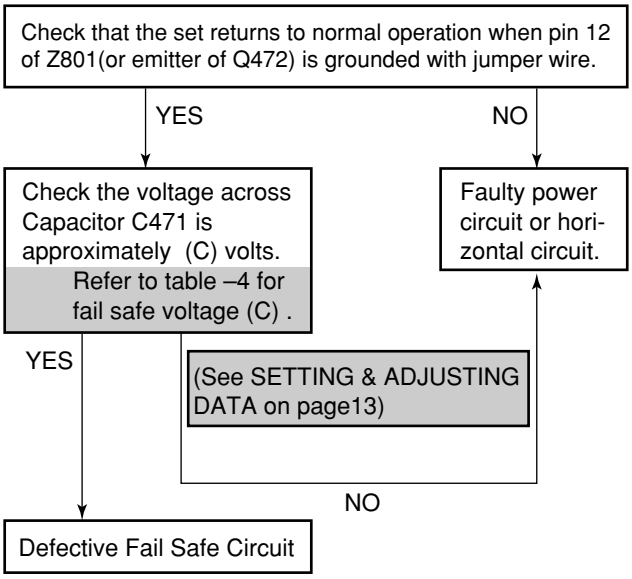
1. Connect an accurate high voltage meter to the second anode of the picture tube.
2. Turn on the receiver. Set the BRIGHTNESS and CONTRAST controls to minimum (zero beam current).
3. High voltage must be measured below (B) kV.
   Refer to table-1 for high voltage (B).
   (See SETTING & ADJUSTING DATA on page 13)
4. Vary the BRIGHTNESS control to both extremes to be sure the high voltage does not exceed the limit under any conditions.

FS CIRCUIT CHECK

The Fail Safe (FS) circuit check is indispensable for the final check in servicing. Checking should be done following the steps below.

1. Turn the receiver on and press the RESET button.
2. Temporarily short TP-(R) and TP-(X) with a jumper wire. Raster and sound will disappear.
3. The receiver must remain in this state even after removing the jumper wire. This is the evidence that the FS circuit is functioning properly.
4. To obtain a picture again, temporarily turn the receiver off and allow the FS circuit more than 5 seconds to reset. Then turn the power switch on to produce a normal picture.

Troubleshooting Guide for Fail Safe Circuit


Check that the set returns to normal operation when pin 12 of Z801(or emitter of Q472) is grounded with jumper wire.
YES
NO
Check the voltage across Capacitor C471 is approximately (C) volts.
Refer to table –4 for fail safe voltage (C) .
Faulty power circuit or horizontal circuit.
YES
(See SETTING & ADJUSTING DATA on page13)
NO
Defective Fail Safe Circuit

CHAPTER 2 SPECIFIC INFORMATIONS

SETTING & ADJUSTING DATA

【SAFETY INSTRUCTIONS】

		32"
HIGH VOLTAGE AT ZERO BEAM:	(A)	32.7kV
MAX HIGH VOLTAGE:	(B)	34.1kV

Table-1

【SERVICE MODE】

ADJUSTING ITEMS AND DATAS IN THE SERVICE MODE:

Item	Name of adjustment	Preset	Data
RCUT	R CUTOFF	40H	←
GCUT	G CUTOFF	40H	←
BCUT	B CUTOFF	40H	←
GDRV	G DRIVE	40H	←
BDRV	B DRIVE	40H	←
SCNT	SUB-CONTRAST	0AH	←
BRTC	SUB-BRIGHT	40H	←
COLC	SUB-COLOR	3AH	←
TNTC	SUB-TINT	44H	←
SAVC	SAP VCO	20H	←
ATT	ATTENUATOR	20H	←
STVC	STEREO VCO	20H	←
STRF	STEREO FILTER	20H	←
SPEC	SPECTRAL	20H	←
WBAN	STEREO SEPARATION	20H	←
HPOS	HORIZ. POSITION	16H	←
VPOS	VERT. POSITION	03H	←

Item	Name of adjustment	Preset	Data
HIT	HEIGHT	20H	←
LIN	V-LINEARITY	08H	08H
VSC	V-S CORRECTION	04H	04H
VPS	V-SHIFT	01H	←
VCP	V-COMPENSATION	03H	←
WID	PICTURE WIDTH	17H	17H
DPC	E-W PARABOLA (DPC)	0CH	0CH
CNR	E-W CORNER	02H	02H
TRAP	TRAPEZIUM	06H	06H
HCP	H-COMPENSATION	00H	←
VFC	V-F CORRECTION	0FH	←
PCOL	PIP COLOR	0FH	←
PHUE	PIP TINT	11H	←
PGOF	PIP	36H	←
PROF	PIP	17H	←
PBOF	PIP	17H	←
RGBB	RGB BRIGHT	0BH	←

Table-2

【DESIGN MODE】

ADJUSTING ITEMS AND DATAS IN THE DESIGN MODE:

Item	Name of adjustment	Preset Data	Data	Remarks
OPT1	OPTION1	84H	84H	
OPT2	OPTION2	01H	01H	

Table-3

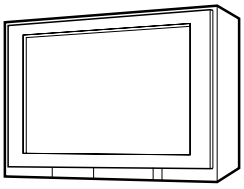
【CIRCUIT CHECKS】

		32"
FAIL SAFE DET. VOLTAGE	(C)	22.35 V

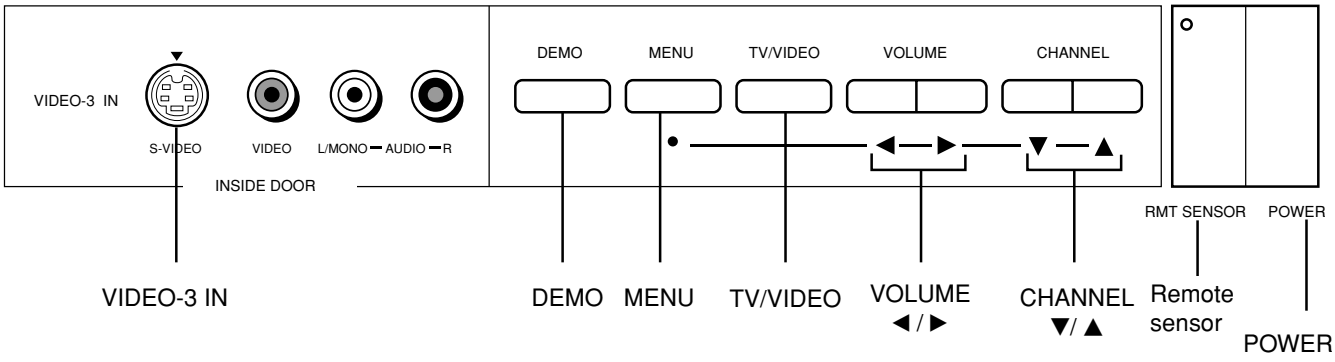
Table-4

LOCATION OF CONTROLS (Representative: 32AF43)

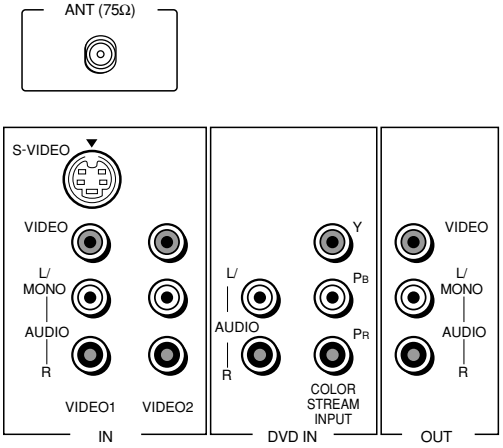
Front View



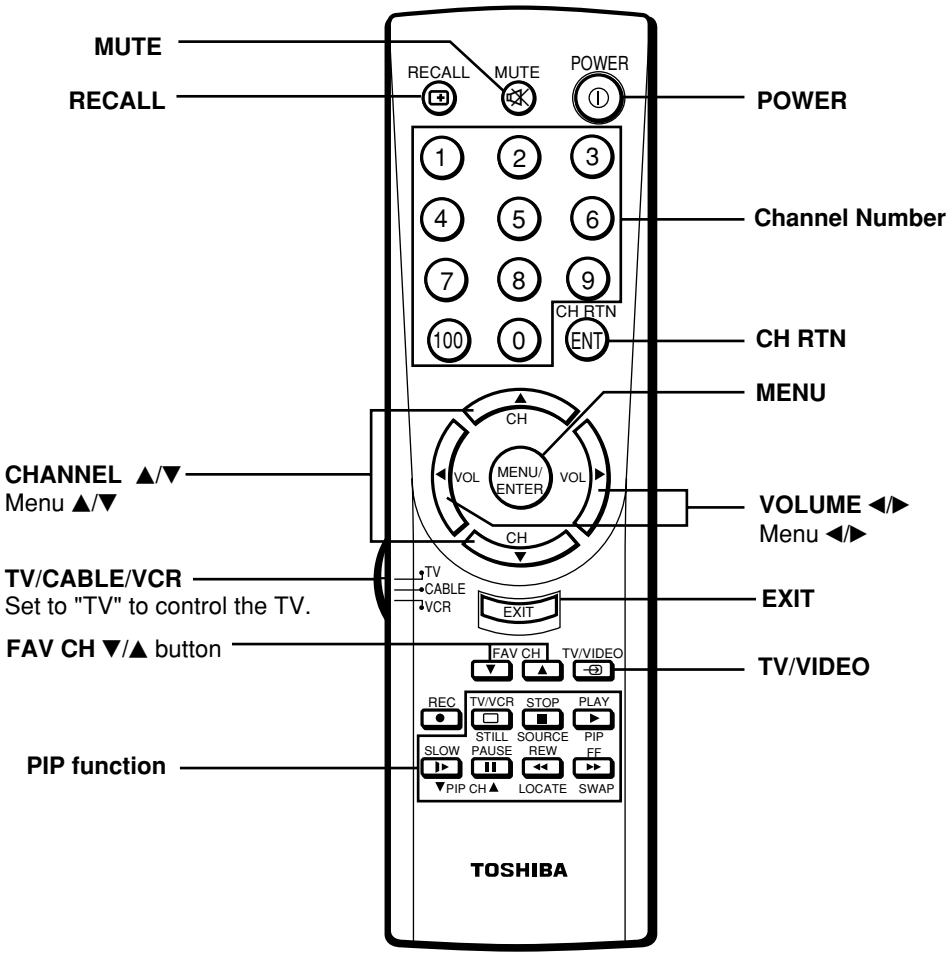
OUTSIDE IND. & CONTROLS: FRONT



Rear Term



Remote Control



PROGRAMMING CHANNEL MEMORY

The channel memory is the list of TV channel numbers your TV will stop on when you press the CHANNEL ▲ or ▼ button.
First, use the TV/CABLE and CH PROGRAM functions to preset all active channels in your area automatically.
If necessary, arrange the preset channels with the ADD/ERASE functions so that you can tune into only desired channels.
Note: If you utilize both ANT-1 and ANT-2 terminals for some model, perform programming channels for each input source.

TV/CABLE function

1. Press **MENU**, then press ► or ◄ until the SET UP menu appears.
2. Press ▼ (or ▲) until “TV/CABLE” is highlighted.
3. Press ► or ◄ to highlight either “TV” or “CABLE”, whichever you use.

CH PROGRAM function

1. Select “CH PROGRAM” following steps 1 and 2 above.
2. Press ► or ◄ to start channel programming.
   The TV will automatically cycle through all the TV or CABLE channels selected by the TV/CABLE function, and store active channels in the channel memory.
3. When channel programming is complete, you will see the message to the right appears.
4. Press **CHANNEL** ▲ or ▼ to make sure the channel programming has been done properly.

ADD/ERASE function

After performing the CH PROGRAM function, you can add or erase specific channels.

1. Select the channel you want to erase using the **CHANNEL** ▲ or ▼ button, or select the channel you want to add using the **Channel Number** buttons.
2. Press **MENU**, then press ► or ◄ until the SET UP menu appears.
3. Press ▼ (or ▲) until “ADD/ERASE” is highlighted.
4. Press ► or ◄ :
   To erase the channel
   Press the button until “ERASE” is highlighted.

   To add the channel
   Press the button until “ADD” is highlighted.
5. Repeat steps 1 to 4 for other channels.

You have now completed the channel programming.

Note: The CHANNEL ▼/▲ buttons on the TV function as the ▼/▲ buttons while a menu is on the screen.

*Please refer to owner's manual in detail.

CHASSIS AND CABINET REPLACEMENT PARTS LIST

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 3 OF THIS MANUAL.

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE. Do not degrade the safety of the receiver through improper servicing.

NOTICE:
- *The part number must be used when ordering parts, in order to assist in processing, be sure to include the Model number and Description.*
- *The PC board assembly with ∗ mark is no longer available after the end of the production.*

Model :32AF43, 32AF53

Capacitors	CD	:	Ceramic Disk	PF	:	Plastic Film	EL	: Electrolytic
Resistors	CF	:	Carbon Film	CC	:	Carbon Composition	MF	: Metal Film
	OMF	:	Oxide Metal Film	VR	:	Variable Resistor	FR	: Fusible Resistor

(All CD and PF capacitors are ±5%, 50V and all resistors, ±5%, 1/6W unless otherwise noted.)

Location No.	Parts No.	Description
CAPACITORS		
C039	24105050	CERAMIC CHIP, 50V CH 5PF C
C102	24793221	ELECTROLYTIC, 10V 220UF M
C105	24109102	CERAMIC CHIP, 50V B 1000PF K
C106	24797479	ELECTROLYTIC, 50V 4.7UF M
C107	24794221	ELECTROIYTIC, 16V 220UF M
C201	24503041	PLASTIC FILM , 63V 0.1UF J
C204	24797010	ELECTROLYTIC, 50V 1UF M
C205	24794100	ELECTROLYTIC, 16V 10UF M
C207	24105270	CERAMIC CHIP, 50V CH 27PF J
C208	24105270	CERAMIC CHIP, 50V CH 27PF J
C209	24105270	CERAMIC CHIP, 50V CH 27PF J
C213	24503041	PLASTIC FILM , 63V 0.1UF J
C216	24797100	ELECTROLYTIC, 50V 10UF M
C220	24503049	PLASTIC FILM, 63V 0.47UF J
C221	24109103	CERAMIC CHIP, 50V B 0.01UF K
C222	24109103	CERAMIC CHIP, 50V B 0.01UF K
C223	24109103	CERAMIC CHIP, 50V B 0.01UF K
C224	24503041	PLASTIC FILM , 63V 0.1UF J
C225	24503041	PLASTIC FILM , 63V 0.1UF J
C226	24503041	PLASTIC FILM , 63V 0.1UF J
C245	24109103	CERAMIC CHIP, 50V B 0.01UF K
C261	24503041	PLASTIC FILM , 63V 0.1UF J
C262	24503041	PLASTIC FILM , 63V 0.1UF J
C263	24503041	PLASTIC FILM , 63V 0.1UF J
C271	24105561	CERAMIC CHIP, 50V CH 560PF J
C301	24214152	CERAMIC DISC, 500V B 1500PF K
C304	24693273	PLASTIC FILM, 100V 0.027UF J
C305	24617915	ELECTROLYTIC, 50V 1UF K 3A LI
C306	24073059	ELECTROLYTIC, 25V 3300UF M 3A
C308	24669221	ELECTROLYTIC, 50V 220UF M 3A
C309	24436101	CERAMIC DISC, 50V SL 100PF J
C310	24073094	ELECTROLYTIC, 50V 1000UF M 3A
C312	24591102	PLASTIC FILM, 50V 1000PF J
C313	24082057	PLASTIC FILM, 100V 0.22UF J
C315	24109102	CERAMIC CHIP, 50V B 1000PF K
C317	24214471	CERAMIC DISC, 500V B 470PF K
C319	24109473	CERAMIC CHIP, 25V B 0.047UF K
C320	24669101	ELECTROLYTIC, 50V 100UF M 3A

Location No.	Parts No.	Description
C323	24503049	PLASTIC FILM, 63V 0.47UF J
C324	24503037	MT PLA CAP, 63V 0.047UF J
C325	24503039	PLASTIC FILM, 63V 0.068UF J
C326	24092730	CERAMIC CHIP, 16V B 0.1UF K
C327	24617915	ELECTROLYTIC, 50V 1UF K 3A LI
C337	24797229	ELECTROLYTIC, 50V 2.2UF M
C360	24793221	ELECTROLYTIC, 10V 220UF M
C361	24794101	ELECTROLYTIC, 16V 100UF M
C366	24693154	PLASTIC FILM CQ921 M 100V 0.15MF J
C370	24668101	ELECTROLYTIC, 35V 100UF M 3A
C371	24668100	ELECTROLYTIC, 35V 10UF M 3A
C391	24666100	ELECTROLYTIC, 10V 10UF M 3A
C393	24666100	ELECTROLYTIC, 10V 10UF M 3A
C396	24082825	PLASTIC FILM, 1800VH 1800PF H
C399	24085981	ELEC. NONPOLAR CE04J 16V 10UF M 11L NP
C403	24109103	CERAMIC CHIP, 50V B 0.01UF K
C404	24797010	ELECTROLYTIC, 50V 1UF M
C407	24092730	CERAMIC CHIP, 16V B 0.1UF K
C408	24109273	CERAMIC CHIP CC73B, 25V 27NF K
C409	24763221	ELECTROLYTIC, 16V 220UF M
C410	24232103	CERAMIC DISC, 50V F 0.01UF Z
C413	24214821	CERAMIC DISC, 500V B 820PF K
C415	24539224	PLASTIC FILM, 50V 0.22UF J
C416	24678229	ELECTROLYTIC, 200V 2.2UF M 3A
C417	24214391	CERAMIC DISC, 500V B 390PF K
C430	24109103	CERAMIC CHIP, 50V B 0.01UF K
C431	24794101	ELECTROLYTIC, 16V 100UF M
C439	24503125	PLASTIC FILM, 400V 0.075UF J
C441	24503305	PLASTIC FILM CF92 T 315V R62UF J
⚠ C442	24503301	PLASTIC FILM CF92 T 315V R39UF J
⚠ C443	24503274	PLASTIC FILM CF92 T 1500VH 7800PF H
⚠ C444	24503194	PLASTIC FILM, 1500VH 0.01UF H
C445	24828563	PLASTIC FILM, 200V 56000PF J
C446	24679100	ELECTROLYTIC, 250V 10UF M 3A
C448	24640908	ELECTROLYTIC, 160V 33UF M 3A LI
C450	24829393	PLASTIC FILM, 400V 0.039UF J
C451	24085981	ELEC. NONPOLAR CE04J 16V 10UF M 11L NP
C463	24212222	CERAMIC DISC, 50V B 2200PF K
C464	24640872	ELECTROLYTIC, 100V 10UF M 3A

Location No.	Parts No.	Description
C466	24503041	PLASTIC FILM , 63V 0.1UF J
⚠ C467	24095879	PLASTIC FILM, 630V 0.022UF H
⚠ C469	24095879	PLASTIC FILM, 630V 0.022UF H
C471	24797479	ELECTROLYTIC, 50V 4.7UF M
C473	24797479	ELECTROLYTIC, 50V 4.7UF M
C474	24797479	ELECTROLYTIC, 50V 4.7UF M
C480	24669220	ELECTROLYTIC, 50V 22UF M 3A
C481	24503049	PLASTIC FILM, 63V 0.47UF J
C482	24797478	ELECTROLYTIC, 50V 0.47UF M
C499	24109102	CERAMIC CHIP, 50V B 1000PF K
C501	24212102	CERAMIC DISC, 50V B 1000PF K
C504	24109222	CERAMIC CHIP, 50V B 2200PF K
C505	24105120	CERAMIC CHIP, 50V CH 12PF J
C510	24794101	ELECTROLYTIC, 16V 100UF M
C511	24109103	CERAMIC CHIP, 50V B 0.01UF K
C512	24206228	ELECTROLYTIC, 50V 0.22UF M 7L 3A
C582	24109103	CERAMIC CHIP, 50V B 0.01UF K
C583	24762471	ELECTROLYTIC, 10V 470UF M
C612	24794470	ELECTORLYTIC, 16V 47UF M
C613	24109103	CERAMIC CHIP, 50V B 0.01UF K
C661	24109102	CERAMIC CHIP, 50V B 1000PF K
C662	24109102	CERAMIC CHIP, 50V B 1000PF K
C663	24666100	ELECTROLYTIC, 10V 10UF M 3A
C672	24796470	ELECTROLYTIC, 35V 47UF M
C673	24669229	ELECTROLYTIC, 50V 2.2UF M 3A
C674	24669010	ELECTROLYTIC, 50V 1UF M 3A
C675	24669010	ELECTROLYTIC, 50V 1UF M 3A
C676	24285104	CERAMIC CHIP, 50V B 0.1UF K
C677	24285104	CERAMIC CHIP, 50V B 0.1UF K
C678	24669229	ELECTROLYTIC, 50V 2.2UF M 3A
C681	24668102	ELECTROLYTIC, 35V 1000UF M 3A
C682	24669221	ELECTROLYTIC, 50V 220UF M 3A
C683	24668102	ELECTROLYTIC, 35V 1000UF M 3A
C684	24100103	CERAMIC CHIP, 50V F 0.01UF Z
C704	24232103	CERAMIC DISC, 50V F 0.01UF Z
C705	24232103	CERAMIC DISC, 50V F 0.01UF Z
C707	24794101	ELECTROLYTIC, 16V 100UF M
C713	24709100	ELECTROLYTIC, 200V 10UF M
C714	24436101	CERAMIC DISC, 50V SL 100PF J
C715	24214472	CERAMIC DISC, 500V B 4700PF K
C716	24436101	CERAMIC DISC, 50V SL 100PF J
C717	24214472	CERAMIC DISC, 500V B 4700PF K
C718	24794470	ELECTORLYTIC, 16V 47UF M
C719	24435560	CERAMIC DISC, 500V SL 56PF J
C720	24709100	ELECTROLYTIC, 200V 10UF M
C721	24794470	ELECTORLYTIC, 16V 47UF M
C726	24212102	CERAMIC DISC, 50V B 1000PF K
⚠ C801	24503002	PLASTIC FILM, AC275V 0.22UF M
⚠ C802	24503001	PLASTIC FILM, AC275V 0.1UF M
C805	24092623	CERAMIC DISC, 250V F 0.01UF Z
C806	24092623	CERAMIC DISC, 250V F 0.01UF Z
C808	24667221	ELECTROLYTIC, 25V 220UF M 3A
C810	24086061	ELECTROLYTIC, 200V 470UF M 3F
⚠ C811	24092581	CERAMIC DISC, AC250V E 1000PF M
⚠ C812	24092581	CERAMIC DISC, AC250V E 1000PF M
⚠ C813	24092583	CERAMIC DISC, AC250V E 2200PF M
C817	24092339	CERAMIC DISC, 2KV 330PF K
C818	24503237	PLASTIC FILM CF92 T 1250VH 2200PF H
C821	24214471	CERAMIC DISC, 500V B 470PF K
C823	24212471	CERAMIC DISC, 50V B 470PF K
C829	24591152	PLASTIC FILM, 50V 1500PF J
C830	24590223	PLASTIC FILM, 50V 0.022UF J
C830	24503047	PLASTIC FILM, 63V 0.33UF J
C831	24503047	PLASTIC FILM, 63V 0.33UF J
C832	24503047	PLASTIC FILM, 63V 0.33UF J

Location No.	Parts No.	Description
C834	24503047	PLASTIC FILM, 63V 0.33UF J
C840	24795221	ELECTROLYTIC, 25V 220UF M
C842	24792101	ELECTROLYTIC, 6.3V 100UF M
C843	24797479	ELECTROLYTIC, 50V 4.7UF M
C884	24086052	ELECTRORYTIC, 200V 220UF M 22A
C886	24214471	CERAMIC DISC, 500V B 470PF K
C889	24796222	ELECTROLYTIC, 35V 2200UF M
C890	24214471	CERAMIC DISC, 500V B 470PF K
C891	24503041	PLASTIC FILM , 63V 0.1UF J
C893	24092339	CERAMIC DISC, 2KV 330PF K
C896	24794471	ELECTROLYTIC, 16V 470UF M
C897	24794222	ELECTROLYTIC, 16V 2200UF M
C898	24503045	PLASTIC FILM, 63V 0.22UF J
C902	24092353	CERAMIC DISC, 2KV 4700PF K
C904	24436331	CERAMIC DISC, 50V SL 330PF J
C905	24436331	CERAMIC DISC, 50V SL 330PF J
C907	24436331	CERAMIC DISC, 50V SL 330PF J
C909	24679220	ELECTROLYTIC, 250V 22UF M 3A
C910	24797478	ELECTROLYTIC, 50V 0.47UF M
C911	24203100	ELECTORLYTIC, 16V 10UF M 7L 3A
C912	24794471	ELECTROLYTIC, 16V 470UF M
C913	24794100	ELECTROLYTIC, 16V 10UF M
C914	24212103	CERAMIC DISC, 50V B 10000PF K
C920	24232103	CERAMIC DISC, 50V F 0.01UF Z
C921	24232103	CERAMIC DISC, 50V F 0.01UF Z
C930	24214101	CERAMIC DISC, 500V B 100PF K
C970	24794470	ELECTORLYTIC, 16V 47UF M
C971	24794470	ELECTORLYTIC, 16V 47UF M
C972	24794470	ELECTORLYTIC, 16V 47UF M
C2701	24109103	CERAMIC CHIP, 50V B 0.01UF K
C2702	24503049	PLASTIC FILM, 63V 0.47UF J
C2703	24109472	CERAMIC CHIP, 50V B 4700PF K
C2704	24794100	ELECTROLYTIC, 16V 10UF M
C2707	24105150	CERAMIC CHIP, 50V CH 15PF J
C2710	24109103	CERAMIC CHIP, 50V B 0.01UF K
C2711	24794100	ELECTROLYTIC, 16V 10UF M
C2715	24109103	CERAMIC CHIP, 50V B 0.01UF K
C3440	24503230	PLASTIC FILM CF92 T 1250VH 1100PF H
CA13	24105470	CERAMIC CHIP, 50V CH 47PF J
CA33	24109103	CERAMIC CHIP, 50V B 0.01UF K
CA36	24108101	CERAMIC CHIP, 50V SL 100PF J
CA37	24108101	CERAMIC CHIP, 50V SL 100PF J
CA38	24108101	CERAMIC CHIP, 50V SL 100PF J
CA42	24794100	ELECTROLYTIC, 16V 10UF M
CA43	24109103	CERAMIC CHIP, 50V B 0.01UF K
CA44	24109103	CERAMIC CHIP, 50V B 0.01UF K
CA68	24794100	ELECTROLYTIC, 16V 10UF M
CA69	24109103	CERAMIC CHIP, 50V B 0.01UF K
CB01	24794470	ELECTORLYTIC, 16V 47UF M
CB41	24763221	ELECTROLYTIC, 16V 220UF M
CB48	24108101	CERAMIC CHIP, 50V SL 100PF J
CD41	24109332	CERAMIC CHIP, 50V B 3300PF K (32AF53)
CD42	24109333	CERAMIC CHIP CK73B 25V 33000PFK (32AF53)
CD43	24797479	ELECTROLYTIC, 50V 4.7UF M (32AF53)
CD44	24797479	ELECTROLYTIC, 50V 4.7UF M (32AF53)
CD45	24109182	CERAMIC CHIP, 50V B 1800PF K (32AF53)
CD46	24092753	CERAMIC CHIP, 10V B 0.22UF K (32AF53)
CD47	24109103	CERAMIC CHIP, 50V B 0.01UF K (32AF53)
CD48	24794100	ELECTROLYTIC, 16V 10UF M (32AF53)
CD49	24092730	CERAMIC CHIP, 16V B 0.1UF K (32AF53)
CD50	24797479	ELECTROLYTIC, 50V 4.7UF M (32AF53)
CD51	24797479	ELECTROLYTIC, 50V 4.7UF M (32AF53)
CD52	24100104	CERAMIC CHIP, 25V F 0.1UF Z (32AF53)
CD53	24794221	ELECTROIYTIC, 16V 220UF M (32AF53)

Location No.	Parts No.	Description
CD54	24797479	ELECTROLYTIC, 50V 4.7UF M (32AF53)
CD55	24797479	ELECTROLYTIC, 50V 4.7UF M (32AF53)
CD56	24797479	ELECTROLYTIC, 50V 4.7UF M (32AF53)
CD57	24092730	CERAMIC CHIP, 16V B 0.1UF K (32AF53)
CD58	24109103	CERAMIC CHIP, 50V B 0.01UF K (32AF53)
CD59	24092753	CERAMIC CHIP, 10V B 0.22UF K (32AF53)
CD60	24109182	CERAMIC CHIP, 50V B 1800PF K (32AF53)
CD61	24797479	ELECTROLYTIC, 50V 4.7UF M (32AF53)
CD62	24797479	ELECTROLYTIC, 50V 4.7UF M (32AF53)
CD63	24109333	CERAMIC CHIP CK73B 25V 33000PFK (32AF53)
CD64	24109332	CERAMIC CHIP, 50V B 3300PF K (32AF53)
CD86	24797100	ELECTROLYTIC, 50V 10UF M (32AF53)
CD88	24797100	ELECTROLYTIC, 50V 10UF M (32AF53)
CD89	24797100	ELECTROLYTIC, 50V 10UF M (32AF53)
CD90	24797100	ELECTROLYTIC, 50V 10UF M (32AF53)
CD91	24797100	ELECTROLYTIC, 50V 10UF M (32AF53)
CG01	24794100	ELECTROLYTIC, 16V 10UF M
CG02	24092730	CERAMIC CHIP, 16V B 0.1UF K
CG03	24794100	ELECTROLYTIC, 16V 10UF M
CG04	24109123	CERAMIC CHIP CK73B, 50V 12000PF K
CG05	24092730	CERAMIC CHIP, 16V B 0.1UF K
CG06	24797479	ELECTROLYTIC, 50V 4.7UF M
CG07	24794100	ELECTROLYTIC, 16V 10UF M
CG08	24794100	ELECTROLYTIC, 16V 10UF M
CG09	24797479	ELECTROLYTIC, 50V 4.7UF M
CG10	24794101	ELECTROLYTIC, 16V 100UF M
CG11	24794100	ELECTROLYTIC, 16V 10UF M
CG12	24797479	ELECTROLYTIC, 50V 4.7UF M
CG13	24794100	ELECTROLYTIC, 16V 10UF M
CG14	24109272	CERAMIC CHIP, 50V B 2700PF K
CG15	24109473	CERAMIC CHIP, 25V B 0.047UF K
CG16	24704335	TA SOLID ELEC.CS15H 16V 3.3UF M
CG17	24794100	ELECTROLYTIC, 16V 10UF M
CG18	24088094	CHIP TA SOLID, 20V 10UF M B2-CAS
CG19	24669010	ELECTROLYTIC, 50V 1UF M 3A
CG20	24797229	ELECTROLYTIC, 50V 2.2UF M (32AF43)
CG21	24797229	ELECTROLYTIC, 50V 2.2UF M (32AF43)
CG22	24109223	CERAMIC CHIP, 25V B 0.022UF K
CG23	24109472	CERAMIC CHIP, 50V B 4700PF K
CG24	24794100	ELECTROLYTIC, 16V 10UF M
CG25	24092730	CERAMIC CHIP, 16V B 0.1UF K
CG26	24109472	CERAMIC CHIP, 50V B 4700PF K
CG27	24794100	ELECTROLYTIC, 16V 10UF M
CG28	24794100	ELECTROLYTIC, 16V 10UF M
CG29	24092730	CERAMIC CHIP, 16V B 0.1UF K
CG30	24794100	ELECTROLYTIC, 16V 10UF M
CG31	24794100	ELECTROLYTIC, 16V 10UF M
CG32	24794100	ELECTROLYTIC, 16V 10UF M
CG33	24794100	ELECTROLYTIC, 16V 10UF M
CG40	24109562	CERAMIC CHIP CK73B, 50V 5600PF K
CG60	24797220	ELECTROLYTIC, 50V 22UF M
CG61	24797220	ELECTROLYTIC, 50V 22UF M
CG62	24797229	ELECTROLYTIC, 50V 2.2UF M
CG63	24797010	ELECTROLYTIC, 50V 1UF M
CG65	24109103	CERAMIC CHIP, 50V B 0.01UF K
CG66	24794470	ELECTORLYTIC, 16V 47UF M
CG68	24794100	ELECTROLYTIC, 16V 10UF M
CG69	24797479	ELECTROLYTIC, 50V 4.7UF M
CG70	24794220	ELECTROLYTIC, 16V 22UF M
CG71	24794100	ELECTROLYTIC, 16V 10UF M
CG72	24794221	ELECTROIYTIC, 16V 220UF M
CG80	24794100	ELECTROLYTIC, 16V 10UF M
CG81	24100104	CERAMIC CHIP, 25V F 0.1UF Z
CI01	24109103	CERAMIC CHIP, 50V B 0.01UF K

Location No.	Parts No.	Description
CI02	24109103	CERAMIC CHIP, 50V B 0.01UF K
CI03	24109103	CERAMIC CHIP, 50V B 0.01UF K
CI04	24109103	CERAMIC CHIP, 50V B 0.01UF K
CI05	24109103	CERAMIC CHIP, 50V B 0.01UF K
CI07	24109103	CERAMIC CHIP, 50V B 0.01UF K
CI08	24797010	ELECTROLYTIC, 50V 1UF M
CI09	24105470	CERAMIC CHIP, 50V CH 47PF J
CI10	24105180	CERAMIC CHIP, 50V CH 18PF J
CI11	24105270	CERAMIC CHIP, 50V CH 27PF J
CI12	24797478	ELECTROLYTIC, 50V 0.47UF M
CI13	24109102	CERAMIC CHIP, 50V B 1000PF K
CI14	24105470	CERAMIC CHIP, 50V CH 47PF J
CI15	24105390	CERAMIC CHIP, 50V CH 39PF J
CI16	24109103	CERAMIC CHIP, 50V B 0.01UF K
CI17	24092726	CERAMIC CHIP CK733B, 16V 2,200,000PFK
CI18	24105181	CERAMIC CHIP, 50V CH 180PF J
CI21	24109103	CERAMIC CHIP, 50V B 0.01UF K
CI23	24109103	CERAMIC CHIP, 50V B 0.01UF K
CI25	24105240	CERAMIC CHIP, 50V CH 24PF J
CI51	24797220	ELECTROLYTIC, 50V 22UF M
CI52	24794101	ELECTROLYTIC, 16V 100UF M
CI53	24797339	ELECTROLYTIO, 50V 3.3UF M
CJ03	24539104	PLASTIC FILM, 50V 0.1UF J
CM51	24503041	PLASTIC FILM , 63V 0.1UF J
CM58	24503041	PLASTIC FILM , 63V 0.1UF J
CS02	24797229	ELECTROLYTIC, 50V 2.2UF M
CS04	24797229	ELECTROLYTIC, 50V 2.2UF M
CS05	24797100	ELECTROLYTIC, 50V 10UF M
CS06	24797100	ELECTROLYTIC, 50V 10UF M
CS14	24797229	ELECTROLYTIC, 50V 2.2UF M
CS16	24797229	ELECTROLYTIC, 50V 2.2UF M
CS25	24797229	ELECTROLYTIC, 50V 2.2UF M
CS26	24797229	ELECTROLYTIC, 50V 2.2UF M
CS40	24797010	ELECTROLYTIC, 50V 1UF M
CS42	24797010	ELECTROLYTIC, 50V 1UF M
CS43	24105331	CERAMIC CHIP, 50V CH 330PF J
CS44	24105331	CERAMIC CHIP, 50V CH 330PF J
CS45	24109331	CERAMIC CHIP, 50V B 330PF K
CS46	24109331	CERAMIC CHIP, 50V B 330PF K
CS47	24105331	CERAMIC CHIP, 50V CH 330PF J
CS48	24105331	CERAMIC CHIP, 50V CH 330PF J
CS49	24105331	CERAMIC CHIP, 50V CH 330PF J
CS60	24105331	CERAMIC CHIP, 50V CH 330PF J
CS61	24109102	CERAMIC CHIP, 50V B 1000PF K
CS62	24109102	CERAMIC CHIP, 50V B 1000PF K
CS70	24794220	ELECTROLYTIC, 16V 22UF M
CS71	24794220	ELECTROLYTIC, 16V 22UF M
CS115	24797010	ELECTROLYTIC, 50V 1UF M
CS116	24797010	ELECTROLYTIC, 50V 1UF M
CS118	24794470	ELECTORLYTIC, 16V 47UF M
CS120	24797010	ELECTROLYTIC, 50V 1UF M
CS625	24797479	ELECTROLYTIC, 50V 4.7UF M
CS626	24797479	ELECTROLYTIC, 50V 4.7UF M
CS627	24797479	ELECTROLYTIC, 50V 4.7UF M
CS628	24797479	ELECTROLYTIC, 50V 4.7UF M
CS630	24794101	ELECTROLYTIC, 16V 100UF M
CV03	24206108	ELECTROLYTIC, 50V 0.1UF M 7L 3A
CV05	24109103	CERAMIC CHIP, 50V B 0.01UF K
CV09	24503041	PLASTIC FILM , 63V 0.1UF J
CV13	24206108	ELECTROLYTIC, 50V 0.1UF M 7L 3A
CV15	24109103	CERAMIC CHIP, 50V B 0.01UF K
CV24	24109473	CERAMIC CHIP, 25V B 0.047UF K
CV25	24794220	ELECTROLYTIC, 16V 22UF M
CV27	24092730	CERAMIC CHIP, 16V B 0.1UF K
CV29	24109103	CERAMIC CHIP, 50V B 0.01UF K

Location No.	Parts No.	Description
CV31	24092730	CERAMIC CHIP, 16V B 0.1UF K
CV38	24763471	ELECTROLYTIC, 16V 470UF M
CV39	24109103	CERAMIC CHIP, 50V B 0.01UF K
CV41	24092730	CERAMIC CHIP, 16V B 0.1UF K
CV61	24762471	ELECTROLYTIC, 10V 470UF M
CZ03	24092442	CERAMIC CHIP, 16V F 0.47UF Z (32AF43)
CZ05	24109103	CERAMIC CHIP, 50V B 0.01UF K (32AF43)
CZ07	24092178	CERAMIC CHIP, 25V B 0.1UF K (32AF43)
CZ09	24108220	CERAMIC CHIP, 50V SL 22PF J (32AF43)
CZ10	24108100	CERAMIC CHIP, 50V SL 10PF D (32AF43)
CZ11	24108220	CERAMIC CHIP, 50V SL 22PF J (32AF43)
CZ12	24109103	CERAMIC CHIP, 50V B 0.01UF K (32AF43)
CZ13	24109103	CERAMIC CHIP, 50V B 0.01UF K (32AF43)
CZ14	24203100	ELECTORLYTIC, 16V 10UF M 7L 3A (32AF43)
CZ17	24109103	CERAMIC CHIP, 50V B 0.01UF K (32AF43)
CZ19	24108181	CERAMIC CHIP, 50V SL 180PF J (32AF43)
CZ20	24109103	CERAMIC CHIP, 50V B 0.01UF K (32AF43)
CZ21	24109122	CERAMIC CHIP, 50V B 1200PF K (32AF43)
CZ22	24794100	ELECTROLYTIC, 16V 10UF M (32AF43)
CZ23	24109103	CERAMIC CHIP, 50V B 0.01UF K (32AF43)
CZ24	24109103	CERAMIC CHIP, 50V B 0.01UF K (32AF43)
CZ25	24794100	ELECTROLYTIC, 16V 10UF M (32AF43)
CZ26	24109103	CERAMIC CHIP, 50V B 0.01UF K (32AF43)
CZ28	24109103	CERAMIC CHIP, 50V B 0.01UF K (32AF43)
CZ29	24109103	CERAMIC CHIP, 50V B 0.01UF K (32AF43)
CZ30	24794100	ELECTROLYTIC, 16V 10UF M (32AF43)
CZ31	24109103	CERAMIC CHIP, 50V B 0.01UF K (32AF43)
CZ32	24108150	CERAMIC CHIP, 50V SL 15PF J (32AF43)
CZ33	24108390	CERAMIC CHIP, 50V SL 39PF J (32AF43)
CZ34	24108150	CERAMIC CHIP, 50V SL 15PF J (32AF43)
CZ35	24108390	CERAMIC CHIP, 50V SL 39PF J (32AF43)
CZ37	24794100	ELECTROLYTIC, 16V 10UF M (32AF43)
CZ38	24794100	ELECTROLYTIC, 16V 10UF M (32AF43)
CZ41	24108470	CERAMIC CHIP, 50V SL 47PF J (32AF43)
CZ42	24108470	CERAMIC CHIP, 50V SL 47PF J (32AF43)
CZ45	24108100	CERAMIC CHIP, 50V SL 10PF D (32AF43)
CZ150	24794101	ELECTROLYTIC, 16V 100UF M
CZ020	24100104	CERAMIC CHIP, 25V F 0.1UF Z (32AF53)
CZ030	24092730	CERAMIC CHIP, 16V B 0.1UF K (32AF53)
CZ040	24105181	CERAMIC CHIP, 50V CH 180PF J (32AF53)
CZ050	24105680	CERAMIC CHIP, 50V CH 68PF J (32AF53)
CZ060	24105330	CERAMIC CHIP, 50V CH 33PF J (32AF53)
CZ070	24794101	ELECTROLYTIC, 16V 100UF M (32AF53)
CZ080	24100104	CERAMIC CHIP, 25V F 0.1UF Z (32AF53)
CZ090	24109103	CERAMIC CHIP, 50V B 0.01UF K (32AF53)
CZ100	24794101	ELECTROLYTIC, 16V 100UF M (32AF53)
CZ110	24100104	CERAMIC CHIP, 25V F 0.1UF Z (32AF53)
CZ120	24105101	CERAMIC CHIP, 50V CH 100PF J (32AF53)
CZ130	24105101	CERAMIC CHIP, 50V CH 100PF J (32AF53)
CZ140	24105151	CERAMIC CHIP, 50V CH 150PF J (32AF53)
CZ250	24100104	CERAMIC CHIP, 25V F 0.1UF Z (32AF53)
CZ350	24792101	ELECTROLYTIC, 6.3V 100UF M (32AF53)
CZ360	24792101	ELECTROLYTIC, 6.3V 100UF M (32AF53)
CZ370	24792101	ELECTROLYTIC, 6.3V 100UF M (32AF53)
CZ380	24792101	ELECTROLYTIC, 6.3V 100UF M (32AF53)
CZ390	24792101	ELECTROLYTIC, 6.3V 100UF M (32AF53)
CZ400	24100104	CERAMIC CHIP, 25V F 0.1UF Z (32AF53)
CZ410	24100104	CERAMIC CHIP, 25V F 0.1UF Z (32AF53)
CZ420	24100104	CERAMIC CHIP, 25V F 0.1UF Z (32AF53)
CZ430	24100104	CERAMIC CHIP, 25V F 0.1UF Z (32AF53)
CZ440	24100104	CERAMIC CHIP, 25V F 0.1UF Z (32AF53)
CZ450	24100104	CERAMIC CHIP, 25V F 0.1UF Z (32AF53)
CZ460	24100104	CERAMIC CHIP, 25V F 0.1UF Z (32AF53)
CZ470	24100104	CERAMIC CHIP, 25V F 0.1UF Z (32AF53)
CZ480	24100104	CERAMIC CHIP, 25V F 0.1UF Z (32AF53)

Location No.	Parts No.	Description
CZ490	24100104	CERAMIC CHIP, 25V F 0.1UF Z (32AF53)
CZ500	24100104	CERAMIC CHIP, 25V F 0.1UF Z (32AF53)
CZ510	24100104	CERAMIC CHIP, 25V F 0.1UF Z (32AF53)
CZ520	24794100	ELECTROLYTIC, 16V 10UF M (32AF53)
CZ530	24092730	CERAMIC CHIP, 16V B 0.1UF K (32AF53)
CZ540	24092730	CERAMIC CHIP, 16V B 0.1UF K (32AF53)
CZ570	24105181	CERAMIC CHIP, 50V CH 180PF J (32AF53)
CZ580	24105560	CERAMIC CHIP, 50V CH 56PF J (32AF53)
CZ600	24100104	CERAMIC CHIP, 25V F 0.1UF Z (32AF53)
CZ610	24100104	CERAMIC CHIP, 25V F 0.1UF Z (32AF53)
CZ620	24100104	CERAMIC CHIP, 25V F 0.1UF Z (32AF53)
CZ630	24092730	CERAMIC CHIP, 16V B 0.1UF K (32AF53)
CZ640	24105101	CERAMIC CHIP, 50V CH 100PF J (32AF53)
CZ650	24092573	CERAMIC CHIP, 16V B 0.47UF K (32AF53)
CZ660	24092730	CERAMIC CHIP, 16V B 0.1UF K (32AF53)
CZ670	24092730	CERAMIC CHIP, 16V B 0.1UF K (32AF53)
CZ680	24092730	CERAMIC CHIP, 16V B 0.1UF K (32AF53)
CZ690	24092730	CERAMIC CHIP, 16V B 0.1UF K (32AF53)
CZ700	24100104	CERAMIC CHIP, 25V F 0.1UF Z (32AF53)
CZ710	24092730	CERAMIC CHIP, 16V B 0.1UF K (32AF53)
CZ720	24092730	CERAMIC CHIP, 16V B 0.1UF K (32AF53)
CZ730	24092730	CERAMIC CHIP, 16V B 0.1UF K (32AF53)
CZ740	24092730	CERAMIC CHIP, 16V B 0.1UF K (32AF53)
CZ750	24092730	CERAMIC CHIP, 16V B 0.1UF K (32AF53)
CZ760	24092573	CERAMIC CHIP, 16V B 0.47UF K (32AF53)
CZ770	24092730	CERAMIC CHIP, 16V B 0.1UF K (32AF53)
CZ830	24100104	CERAMIC CHIP, 25V F 0.1UF Z (32AF53)
CZ840	24100104	CERAMIC CHIP, 25V F 0.1UF Z (32AF53)
CZ960	24105270	CERAMIC CHIP, 50V CH 27PF J (32AF53)
CZ970	24794101	ELECTROLYTIC, 16V 100UF M (32AF53)
CZ980	24100104	CERAMIC CHIP, 25V F 0.1UF Z (32AF53)
CZ990	24100104	CERAMIC CHIP, 25V F 0.1UF Z (32AF53)
RESISTORS		
R101	24382223	OXIDE METAL FILM, 1W 22K OHM J
R201	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
R202	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
R203	24011474	CHIP, METAL FILM, 1/20W 470K OHM J
R204	24011182	CHIP, METAL FILM, 1/20W 1.8K OHM J
R205	24366152	CARBON FILM, 1/6W 1.5K OHM J
R206	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
R207	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
R208	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
R209	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
R216	24011223	CHIP, METAL FILM, 1/20W 22K OHM J
R219	24366223	CARBON FILM, 1/6W 22K OHM J
R223	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
R227	24366133	CARBON FILM, 1/6W 13K OHM J (32AF43)
R227	24366682	CARBON FILM, 1/6W 6.8K OHM J (32AF53)
R228	24366333	CARBON FILM, 1/6W 33K OHM J
R238	24011473	CHIP, METAL FILM, 1/20W 47K OHM J
R240	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
R245	24011104	CHIP, METAL FILM, 1/20W 100K OHM J
R261	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
R262	24366102	CARBON FILM, 1/6W 1K OHM J
R263	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
R264	24366102	CARBON FILM, 1/6W 1K OHM J
R265	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
R266	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
R271	24011471	CHIP, METAL FILM, 1/20W 470 OHM J
R272	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
R275	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R303	24321109	OXIDE METAL FILM, 1/2W 1 OHM J
R304	24366623	CARBON FILM, 1/6W 62K OHM J
R305	24322828	OXIDE METAL FILM, 1W 0.82 OHM J

Location No.	Parts No.	Description
R306	24366683	CARBON FILM, 1/6W 68K OHM J
R307	24366684	CARBON FILM, 1/6W 680K OHM J
R311	24366332	CARBON FILM, 1/6W 3.3K OHM J
R312	24366153	CARBON FILM, 1/6W 15K OHM J
R313	24366104	CARBON FILM, 1/6W 100K OHM J
R314	24366104	CARBON FILM, 1/6W 100K OHM J
R315	24011104	CHIP, METAL FILM, 1/20W 100K OHM J
R316	24366154	CARBON FILM, 1/6W 150K OHM J
R317	24366102	CARBON FILM, 1/6W 1K OHM J
R318	24011473	CHIP, METAL FILM, 1/20W 47K OHM J
⚠ R327	24339479	OXIDE METAL FILM, 2W 4.7 OHM J
R328	24011684	CHIP, METAL FILM, 1/20W 680K OHM J
R332	24011473	CHIP, METAL FILM, 1/20W 47K OHM J
R336	24383181	OXIDE METAL FILM, 2W 180 OHM J
R345	24382332	OXIDE FILM, 1W 3.3K J
R360	24011104	CHIP, METAL FILM, 1/20W 100K OHM J
R368	24545479	FUSIBLE, 1/4W 4.7 OHM J
R369	24366391	CARBON FILM, 1/6W 390 OHM J
⚠ R370	24321109	OXIDE METAL FILM, 1/2W 1 OHM J
R371	24366103	CARBON FILM, 1/6W 10K OHM J
R372	24366392	CARBON FILM, 1/6W 3.9K OHM J
R373	24366102	CARBON FILM, 1/6W 1K OHM J
R374	24366163	CARBON FILM, 1/6W 16K OHM J
R379	24382103	OXIDE METAL FILM, 1W 10K OHM J
R389	24366472	CARBON FILM, 1/6W 4.7K OHM J
R392	24552102	OXIDE METAL FILM, 1/2W 1K OHM J
R394	24366102	CARBON FILM, 1/6W 1K OHM J
R396	24366103	CARBON FILM, 1/6W 10K OHM J
R397	24366103	CARBON FILM, 1/6W 10K OHM J
R398	24366184	CARBON FILM, 1/6W 18OK OHM J
R399	24366103	CARBON FILM, 1/6W 10K OHM J
R400	24946561	CARBON COMPOSITION, 1/2W 560 OHM K
R401	24011391	CHIP, METAL FILM, 1/20W 390 OHM J
R403	24011622	CHIP, METAL FILM, 1/20W 6.2K OHM J
R405	24382682	OXIDE METAL FILM, 1W 6.8K OHM J
R406	24011273	CHIP, METAL FILM, 1/20W 27K OHM J
R407	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R408	24366472	CARBON FILM, 1/6W 4.7K OHM J
R410	24366271	CARBON FILM, 1/6W 270 OHM J
R411	24366561	CARBON FILM, 1/6W 560 OHM J
R415	24553272	OXIDE METAL FILM, 1W 2.7K OHM J
R416	24019329	OXIDE FILM, 5W 3R3K J
R418	24383181	OXIDE METAL FILM, 2W 180 OHM J
R430	24366102	CARBON FILM, 1/6W 1K OHM J
R431	24366103	CARBON FILM, 1/6W 10K OHM J
R432	24366202	CARBON FILM, 1/6W 2K OHM J
R433	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
R441	24532102	FUSIBLE, 1W 1K OHM J
R443	24382153	OXIDE METAL FILM, 1W 15K OHM J
R445	24310229	OXIDE METAL FILM, 1/2W 2.2 OHM J
R450	24366103	CARBON FILM, 1/6W 10K OHM J
R456	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R458	24011104	CHIP, METAL FILM, 1/20W 100K OHM J
R460	24366562	CARBON FILM, 1/6W 5.6K OHM J
R461	24366182	CARBON FILM, 1/6W 1.8K OHM J
R463	24322399	OXIDE METAL FILM, 1W 3.9 OHM J
R464	24366103	CARBON FILM, 1/6W 10K OHM J
R466	24366103	CARBON FILM, 1/6W 10K OHM J
R472	24382270	OXIDE FILM, 1W 27 J
⚠ R475	24366471	CARBON FILM, 1/6W 470 OHM J
R476	24366823	CARBON FILM, 1/6W 82K OHM J
R477	24366273	CARBON FILM, 1/6W 27K OHM J
⚠ R478	24327133	METAL FILM, 1/4W 13K OHM F
R480	24366123	CARBON FILM, 1/6W 12K OHM J
R481	24366333	CARBON FILM, 1/6W 33K OHM J

Location No.	Parts No.	Description
⚠ R482	24327472	METAL FILM, 1/4W 4R7K F
R483	24366103	CARBON FILM, 1/6W 10K OHM J
⚠ R485	24338478	OXIDE METAL FILM, 1W 0.47 OHM J
R486	24552820	OXIDE METAL FILM, 1/2W 82 OHM J
R487	24552301	OXIDE METAL FILM, 1/2W 300 OHM J
R488	24327183	METAL FILM, 1/4W 18K OHM F
R489	24327183	METAL FILM, 1/4W 18K OHM F
R490	24366102	CARBON FILM, 1/6W 1K OHM J
R493	24366102	CARBON FILM, 1/6W 1K OHM J
R494	24366471	CARBON FILM, 1/6W 470 OHM J
R495	24366560	CARBON FILM, 1/6W 56 OHM J
R501	24011153	CHIP, METAL FILM, 1/2OW 15K OHM J
R502	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
R503	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
R508	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
R509	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
R510	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
R511	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
R612	24366103	CARBON FILM, 1/6W 10K OHM J
R613	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
R614	24366102	CARBON FILM, 1/6W 1K OHM J
R661	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
R662	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
R663	24011152	CHIP, METAL FILM, 1/20W 1.5K OHM J
R664	24011152	CHIP, METAL FILM, 1/20W 1.5K OHM J
R667	24011223	CHIP, METAL FILM, 1/20W 22K OHM J
R668	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R669	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R674	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
R676	24366229	CARBON FILM, 1/6W 2.2 OHM J
R677	24366229	CARBON FILM, 1/6W 2.2 OHM J
R678	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
R679	24000824	CHIP JUMPER, 2125TYPE
R702	24366681	CARBON FILM, 1/6W 680 OHM J
R709	24366563	CARBON FILM, 1/6W 56K OHM J
R713	24366393	CARBON FILM, 1/6W 39K OHM J
R714	24552121	OXIDE METAL FILM, 1/2W 120 OHM J
R715	24366273	CARBON FILM, 1/6W 27K OHM J
R716	24366333	CARBON FILM, 1/6W 33K OHM J
R717	24366333	CARBON FILM, 1/6W 33K OHM J
R718	24366101	CARBON FILM, 1/6W 100 OHM J
R719	24366392	CARBON FILM, 1/6W 3.9K OHM J
R720	24366392	CARBON FILM, 1/6W 3.9K OHM J
R722	24366102	CARBON FILM, 1/6W 1K OHM J
R723	24366471	CARBON FILM, 1/6W 470 OHM J
R724	24366820	CARBON FILM, 1/6W 82 OHM J
R725	24366182	CARBON FILM, 1/6W 1.8K OHM J
R730	24552100	OXIDE METAL FILM, 1/2W 10 OHM J
R731	24552331	OXIDE METAL FILM, 1/2W 330 OHM J
R732	24366820	CARBON FILM, 1/6W 82 OHM J
R733	24366683	CARBON FILM, 1/6W 68K OHM J
R734	24366820	CARBON FILM, 1/6W 82 OHM J
R735	24366683	CARBON FILM, 1/6W 68K OHM J
R736	24366620	CARBON FILM, 1/6W 62 OHM J
R737	24366152	CARBON FILM, 1/6W 1.5K OHM J
R738	24366102	CARBON FILM, 1/6W 1K OHM J
R739	24366152	CARBON FILM, 1/6W 1.5K OHM J
R740	24366620	CARBON FILM, 1/6W 62 OHM J
R741	24366279	CARBON FILM, 1/6W 2.7 OHM J
R742	24366279	CARBON FILM, 1/6W 2.7 OHM J
R743	24554221	OXIDE METAL FILM, 2W 220 OHM J
R744	24366122	CARBON FILM, 1/6W 1.2K OHM J
R745	24366122	CARBON FILM, 1/6W 1.2K OHM J
R803	24004943	METAL FILM, 1W 0.12 OHM J
⚠ R808	24019493	THERMISTOR, PTC, AC140V 1.5 OHM M

Location No.	Parts No.	Description
⚠ R810	24568828	CERAMIC COVERED, 7W 0.82 OHM K (32AF43)
⚠ R810	24569828	CERAMIC COVERED, G 10W 0.82 J (32AF53)
R814	24366122	CARBON FILM, 1/6W 1.2K OHM J
R815	24552332	OXIDE METAL FILM, 1/2W 3.3K OHM J
R818	24510150	CERAMIC COVERED, 5W 15 OHM J
R820	24004942	METAL FILM, 1W 0.1 OHM J
R821	24321479	OXIDE METAL FILM, 1/2W 4.7 OHM J
R823	24366122	CARBON FILM, 1/6W 1.2K OHM J
R829	24004942	METAL FILM, 1W 0.1 OHM J
R835	24552471	OXIDE METAL FILM, 1/2W 470 OHM J
R861	24553223	OXIDE METAL FILM, 1W 22K OHM J
R883	24552471	OXIDE METAL FILM, 1/2W 470 OHM J
R884	24366471	CARBON FILM, 1/6W 470 OHM J
R885	24366102	CARBON FILM, 1/6W 1K OHM J
R891	24366102	CARBON FILM, 1/6W 1K OHM J
⚠ R898	24010001	CARBON FILM, 1/2W 3.9M OHM J
R901	24376561	CARBON FILM, 1/2W 560 OHM J
R902	24376561	CARBON FILM, 1/2W 560 OHM J
R903	24376561	CARBON FILM, 1/2W 560 OHM J
R904	24366103	CARBON FILM, 1/6W 10K OHM J
R905	24366101	CARBON FILM, 1/6W 100 OHM J
R912	24366102	CARBON FILM, 1/6W 1K OHM J
R914	24366561	CARBON FILM, 1/6W 560 OHM J
R915	24366101	CARBON FILM, 1/6W 100 OHM J
R916	24366680	CARBON FILM, 1/6W 68 OHM J
R917	24366471	CARBON FILM, 1/6W 470 OHM J
R918	24366820	CARBON FILM, 1/6W 82 OHM J
R919	24366102	CARBON FILM, 1/6W 1K OHM J
⚠ R920	24000910	FUSIBLE, 1W 3.3 OHM J
R921	24366561	CARBON FILM, 1/6W 560 OHM J
R922	24366101	CARBON FILM, 1/6W 100 OHM J
R923	24366391	CARBON FILM, 1/6W 390 OHM J
R924	24366820	CARBON FILM, 1/6W 82 OHM J
R925	24366471	CARBON FILM, 1/6W 470 OHM J
R926	24366102	CARBON FILM, 1/6W 1K OHM J
R928	24366561	CARBON FILM, 1/6W 560 OHM J
R929	24366101	CARBON FILM, 1/6W 100 OHM J
R930	24366820	CARBON FILM, 1/6W 82 OHM J
R932	24366272	CARBON FILM, 1/6W 2.7K OHM J
R933	24366750	CARBON FILM, 1/6W 75 OHM J
R934	24366391	CARBON FILM, 1/6W 390 OHM J
R935	24366821	CARBON FILM, 1/6W 820 OHM J
R936	24366750	CARBON FILM, 1/6W 75 OHM J
R937	24366471	CARBON FILM, 1/6W 470 OHM J
R939	24366680	CARBON FILM, 1/6W 68 OHM J
R940	24366821	CARBON FILM, 1/6W 820 OHM J
R942	24366392	CARBON FILM, 1/6W 3.9K OHM J
R943	24366392	CARBON FILM, 1/6W 3.9K OHM J
R944	24366392	CARBON FILM, 1/6W 3.9K OHM J
R945	24366680	CARBON FILM, 1/6W 68 OHM J
R946	24366680	CARBON FILM, 1/6W 68 OHM J
R947	24366103	CARBON FILM, 1/6W 10K OHM J
R948	24366103	CARBON FILM, 1/6W 10K OHM J
R949	24366103	CARBON FILM, 1/6W 10K OHM J
R950	24366302	CARBON FILM, 1/6W 3K OHM J
R951	24366682	CARBON FILM, 1/6W 6.8K OHM J
R952	24366101	CARBON FILM, 1/6W 100 OHM J
R955	24366122	CARBON FILM, 1/6W 1.2K OHM J
R957	24366822	CARBON FILM, 1/6W 8.2K OHM J
R960	24383153	OXIDE METAL FILM, 2W 15K OHM J
R961	24383153	OXIDE METAL FILM, 2W 15K OHM J
R962	24383153	OXIDE METAL FILM, 2W 15K OHM J
R963	24383153	OXIDE METAL FILM, 2W 15K OHM J
R964	24383153	OXIDE METAL FILM, 2W 15K OHM J

Location No.	Parts No.	Description
R965	24383153	OXIDE METAL FILM, 2W 15K OHM J
R973	24366472	CARBON FILM, 1/6W 4.7K OHM J
R976	24366561	CARBON FILM, 1/6W 560 OHM J
R977	24366122	CARBON FILM, 1/6W 1.2K OHM J
R978	24366561	CARBON FILM, 1/6W 560 OHM J
R979	24366561	CARBON FILM, 1/6W 560 OHM J
R980	24366471	CARBON FILM, 1/6W 470 OHM J
R981	24366821	CARBON FILM, 1/6W 820 OHM J
R982	24366103	CARBON FILM, 1/6W 10K OHM J
R983	24366222	CARBON FILM, 1/6W 2.2K OHM J
R984	24367152	CARBON FILM, 1/6W 1.5K OHM G
R985	24367471	CARBON FILM, 1/6W 470 OHM G
R986	24367681	CARBON FILM, 1/6W 680 OHM G
R987	24367681	CARBON FILM, 1/6W 680 OHM G
R988	24367472	CARBON FILM, 1/6W 4.7K OHM G
R989	24367332	CARBON FILM, 1/6W 3.3K OHM G
R990	24366222	CARBON FILM, 1/6W 2.2K OHM J
R991	24367681	CARBON FILM, 1/6W 680 OHM G
R992	24366150	CARBON FILM, 1/6W 15 OHM J
R993	24366471	CARBON FILM, 1/6W 470 OHM J
R994	24366392	CARBON FILM, 1/6W 3.9K OHM J
R997	24366272	CARBON FILM, 1/6W 2.7K OHM J
R998	24366472	CARBON FILM, 1/6W 4.7K OHM J
R999	24366472	CARBON FILM, 1/6W 4.7K OHM J
R2701	24011105	CHIP, METAL FILM, 1/20W 1M OHM J
R2702	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
R2703	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J
R2705	24366102	CARBON FILM, 1/6W 1K OHM J
R2706	24366102	CARBON FILM, 1/6W 1K OHM J
R2707	24366221	CARBON FILM, 1/6W 220 OHM J
R2708	24366331	CARBON FILM, 1/6W 330 OHM J
R2709	24366331	CARBON FILM, 1/6W 330 OHM J
R2710	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
R2711	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J
R2712	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
⚠ R3440	24338129	METAL FILM, 1W 1R2 J
R3442	24005016	METAL GLAZE, 1/2W 180K OHM J
R3443	24005016	METAL GLAZE, 1/2W 180K OHM J
R3444	24005016	METAL GLAZE, 1/2W 180K OHM J
R3445	24005016	METAL GLAZE, 1/2W 180K OHM J
R4460	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
R4461	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
R4462	24011133	CHIP, METAL FILM, 1/20W 13K OHM J
R4463	24011682	CHIP, METAL FILM, 1/20W 6.8K OHM J
R4465	24011223	CHIP, METAL FILM, 1/20W 22K OHM J
R4466	24011223	CHIP, METAL FILM, 1/20W 22K OHM J
R4467	24011223	CHIP, METAL FILM, 1/20W 22K OHM J
R4468	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
R4761	24366102	CARBON FILM, 1/6W 1K OHM J
R4765	24366221	CARBON FILM, 1/6W 220 OHM J
RA02	24366102	CARBON FILM, 1/6W 1K OHM J
RA03	24366102	CARBON FILM, 1/6W 1K OHM J
RA04	24366102	CARBON FILM, 1/6W 1K OHM J
RA05	24366102	CARBON FILM, 1/6W 1K OHM J
RA06	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA07	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA08	24366102	CARBON FILM, 1/6W 1K OHM J
RA09	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA15	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA16	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA17	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA18	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA20	24011221	CHIP, METAL FILM, 1/20W 220 OHM J
RA21	24366102	CARBON FILM, 1/6W 1K OHM J
RA22	24011331	CHIP, METAL FILM, 1/20W 330 OHM J

Location No.	Parts No.	Description
RA23	24011331	CHIP, METAL FILM, 1/20W 330 OHM J
RA24	24011331	CHIP, METAL FILM, 1/20W 330 OHM J
RA25	24011331	CHIP, METAL FILM, 1/20W 330 OHM J
RA26	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA27	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA33	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RA35	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA36	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RA37	24011331	CHIP, METAL FILM, 1/20W 330 OHM J
RA38	24011331	CHIP, METAL FILM, 1/20W 330 OHM J
RA40	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RA41	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RA61	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RA62	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RA67	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
RA68	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
RA71	24366683	CARBON FILM, 1/6W 68K OHM J
RA72	24366223	CARBON FILM, 1/6W 22K OHM J
RA73	24366103	CARBON FILM, 1/6W 10K OHM J
RA74	24011333	CHIP, METAL FILM, 1/20W 33K OHM J
RA201	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
RB03	24366101	CARBON FILM, 1/6W 100 OHM J
RB11	24366271	CARBON FILM, 1/6W 270 OHM J
RB12	24366103	CARBON FILM, 1/6W 10K OHM J
RB13	24366470	CARBON FILM, 1/6W 47 OHM J
RB21	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
RB22	24011122	CHIP, METAL FILM, 1/20W 1.2K OHM J
RB23	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RB24	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
RB25	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
RB30	24366103	CARBON FILM, 1/6W 10K OHM J
RB43	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RB44	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RB45	24011181	CHIP, METAL FILM, 1/20W 180 OHM J
RB46	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RB47	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J
RB48	24011473	CHIP, METAL FILM, 1/20W 47K OHM J
RB49	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RD41	24011104	CHIP, METAL FILM, 1/20W 100K OHM J (32AF53)
RD42	24011101	CHIP, METAL FILM, 1/20W 100 OHM J (32AF53)
RD43	24366101	CARBON FILM, 1/6W 100 OHM J (32AF53)
RD45	24366221	CARBON FILM, 1/6W 220 OHM J (32AF53)
RD48	24011101	CHIP, METAL FILM, 1/20W 100 OHM J (32AF53)
RD49	24011104	CHIP, METAL FILM, 1/20W 100K OHM J (32AF53)
RD79	24011105	CHIP, METAL FILM, 1/20W 1M OHM J (32AF53)
RD80	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J (32AF53)
RD81	24011105	CHIP, METAL FILM, 1/20W 1M OHM J (32AF53)
RD82	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J (32AF53)
RG01	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RG02	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RG03	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RG04	24011105	CHIP, METAL FILM, 1/20W 1M OHM J
RG05	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RG06	24011182	CHIP, METAL FILM, 1/20W 1.8K OHM J
RG07	24000405	CHIP, 1/16W 62K OHM F
RG08	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J
RG09	24011302	CHIP, METAL FILM, 1/20W 3K OHM J

Location No.	Parts No.	Description
RG10	24011392	CHIP, METAL FILM, 1/20W 3.9K OHM J
RG13	24011101	CHIP, METAL FILM, 1/20W 100 OHM J (32AF43)
RG14	24011101	CHIP, METAL FILM, 1/20W 100 OHM J (32AF43)
RG15	24011221	CHIP, METAL FILM, 1/20W 220 OHM J
RG17	24011101	CHIP, METAL FILM, 1/20W 100 OHM J (32AF43)
RG18	24011101	CHIP, METAL FILM, 1/20W 100 OHM J (32AF43)
RG19	24011105	CHIP, METAL FILM, 1/20W 1M OHM J (32AF53)
RG20	24011105	CHIP, METAL FILM, 1/20W 1M OHM J
RG21	24011105	CHIP, METAL FILM, 1/20W 1M OHM J
RG22	24011105	CHIP, METAL FILM, 1/20W 1M OHM J
RG23	24011105	CHIP, METAL FILM, 1/20W 1M OHM J
RG24	24011105	CHIP, METAL FILM, 1/20W 1M OHM J (32AF53)
RG25	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RG26	24011104	CHIP, METAL FILM, 1/20W 100K OHM J
RG27	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RG60	24011182	CHIP, METAL FILM, 1/20W 1.8K OHM J
RG61	24011182	CHIP, METAL FILM, 1/20W 1.8K OHM J
RG62	24011473	CHIP, METAL FILM, 1/20W 47K OHM J
RG63	24011821	CHIP, METAL FILM, 1/20W 820 OHM J
RG66	24366562	CARBON FILM, 1/6W 5.6K OHM J
RG67	24011822	CHIP, METAL FILM, 1/20W 8.2K OHM J
RG68	24011122	CHIP, METAL FILM, 1/20W 1.2K OHM J
RG69	24011564	CHIP, METAL FILM, 1/20W 560K OHM J
RG70	24366102	CARBON FILM, 1/6W 1K OHM J
RG71	24011153	CHIP, METAL FILM, 1/2OW 15K OHM J (32AF43)
RG71	24011333	CHIP, METAL FILM, 1/20W 33K OHM J (32AF53)
RG80	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RG81	24011152	CHIP, METAL FILM, 1/20W 1.5K OHM J
RG82	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RG83	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RG84	24366102	CARBON FILM, 1/6W 1K OHM J
RG85	24366103	CARBON FILM, 1/6W 10K OHM J
RI01	24011270	CHIP, METAL FILM, 1/20W 27 OHM J
RI02	24011512	CHIP, METAL FILM, 1/20W 5.1K OHM J
RI03	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RI04	24011470	CHIP, METAL FILM, 1/20W 47 OHM J
RI05	24011361	CHIP, METAL FILM, 1/20W 360 OHM J
RI06	24011519	METAL FILM CHIP, 1/16W 5.1 J
RI07	24011360	METAL FILM CHIP, 1/20W 36 J
RI08	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J
RI09	24011123	CHIP, METAL FILM, 1/20W 12K OHM J
RI11	24011113	CHIP, METAL FILM, 1/20W 11K OHM J
RI13	24011112	CHIP, METAL FILM, 1/20W 1.1K OHM J
RI14	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RI15	24011182	CHIP, METAL FILM, 1/20W 1.8K OHM J
RI16	24011122	CHIP, METAL FILM, 1/20W 1.2K OHM J
RI17	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RI18	24011132	CHIP, METAL FILM, 1/20W 1.3K OHM J
RI19	24011391	CHIP, METAL FILM, 1/20W 390 OHM J
RI20	24011821	CHIP, METAL FILM, 1/20W 820 OHM J
RI21	24011271	CHIP, METAL FILM, 1/20W 270 OHM J
RI22	24011475	METAL FILM CHIP, 1/16W 4R7M K
RI23	24011221	CHIP, METAL FILM, 1/20W 220 OHM J
RI27	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RI28	24011123	CHIP, METAL FILM, 1/20W 12K OHM J
RI30	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RI32	24366750	CARBON FILM, 1/6W 75 OHM J
RI33	24011124	CHIP, METAL FILM, 1/20W 120K OHM J
RI35	24011563	CHIP, METAL FILM, 1/20W 56K OHM J

Location No.	Parts No.	Description
RI36	24011683	CHIP, METAL FILM, 1/20W 68K OHM J
RI51	24066046	VARIABLE. CARBON, 0.1W 20K N
RI52	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RJ01	24321109	OXIDE METAL FILM, 1/2W 1 OHM J
RJ02	24321109	OXIDE METAL FILM, 1/2W 1 OHM J
RJ06	24366623	CARBON FILM, 1/6W 62K OHM J
RJ08	24366623	CARBON FILM, 1/6W 62K OHM J
RJ09	24366333	CARBON FILM, 1/6W 33K OHM J
RJ12	24366473	CARBON FILM, 1/6W 47K OHM J
RJ13	24366472	CARBON FILM, 1/6W 4.7K OHM J
RJ14	24366472	CARBON FILM, 1/6W 4.7K OHM J
RJ15	24366133	CARBON FILM, 1/6W 13K OHM J
RJ17	24366682	CARBON FILM, 1/6W 6.8K OHM J
RJ30	24000445	CHIP J (32AF53)UMPER, J (32AF53)
RJ41	24000445	CHIP JUMPER, 1608TYPE
RJ42	24000445	CHIP JUMPER, 1608TYPE
RJ43	24000445	CHIP JUMPER, 1608TYPE
RJ44	24000445	CHIP JUMPER, 1608TYPE
RJ45	24000445	CHIP JUMPER, 1608TYPE
RJ46	24000445	CHIP JUMPER, 1608TYPE
RJ47	24000445	CHIP JUMPER, 1608TYPE
RR07	24011681	CHIP, METAL FILM, 1/20W 680 OHM J
RR08	24011682	CHIP, METAL FILM, 1/20W 6.8K OHM J
RR93	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
RS02	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS03	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RS04	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS05	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RS08	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS10	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS14	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS16	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS25	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS26	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS40	24011272	CHIP, METAL FILM, 1/20W 2.7K OHM J
RS42	24011272	CHIP, METAL FILM, 1/20W 2.7K OHM J
RS43	24366103	CARBON FILM, 1/6W 10K OHM J
RS44	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RS60	24366101	CARBON FILM, 1/6W 100 OHM J
RS61	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RS62	24366101	CARBON FILM, 1/6W 100 OHM J
RS63	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RS64	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RS65	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RS66	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RS68	24011223	CHIP, METAL FILM, 1/20W 22K OHM J
RS69	24011223	CHIP, METAL FILM, 1/20W 22K OHM J
RS70	24011104	CHIP, METAL FILM, 1/20W 100K OHM J
RS71	24011104	CHIP, METAL FILM, 1/20W 100K OHM J
RS101	24011123	CHIP, METAL FILM, 1/20W 12K OHM J
RS102	24011123	CHIP, METAL FILM, 1/20W 12K OHM J
RS105	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RS107	24011473	CHIP, METAL FILM, 1/20W 47K OHM J
RS108	24011473	CHIP, METAL FILM, 1/20W 47K OHM J
RS109	24011103	CHIP, METAL FILM, 1/20W 10K OHM J (32AF43)
RS109	24011433	CHIP, METAL FILM, 1/20W 43K OHM J (32AF53)
RS113	24011103	CHIP, METAL FILM, 1/20W 10K OHM J (32AF43)
RS113	24011433	CHIP, METAL FILM, 1/20W 43K OHM J (32AF53)
RS611	24366101	CARBON FILM, 1/6W 100 OHM J
RS612	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RS613	24011101	CHIP, METAL FILM, 1/20W 100 OHM J

Location No.	Parts No.	Description
RS614	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RS615	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RS616	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV02	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RV04	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RV05	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RV07	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RV12	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RV17	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV19	24366750	CARBON FILM, 1/6W 75 OHM J
RV20	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV22	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RV61	24366101	CARBON FILM, 1/6W 100 OHM J
RV62	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RV63	24366101	CARBON FILM, 1/6W 100 OHM J
RV66	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RV120	24366750	CARBON FILM, 1/6W 75 OHM J
RW01	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RW02	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RW03	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RZ01	24011102	CHIP, METAL FILM, 1/20W 1K OHM J (32AF43)
RZ02	24011102	CHIP, METAL FILM, 1/20W 1K OHM J (32AF43)
RZ03	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J (32AF43)
RZ04	24011431	CHIP, METAL FILM, 1/20W 430 OHM J (32AF43)
RZ05	24011471	CHIP, METAL FILM, 1/20W 470 OHM J (32AF43)
RZ06	24011821	CHIP, METAL FILM, 1/20W 820 OHM J (32AF43)
RZ08	24011122	CHIP, METAL FILM, 1/20W 1.2K OHM J (32AF43)
RZ09	24011101	CHIP, METAL FILM, 1/20W 100 OHM J (32AF43)
RZ10	24011471	CHIP, METAL FILM, 1/20W 470 OHM J (32AF43)
RZ12	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J (32AF43)
RZ13	24011122	CHIP, METAL FILM, 1/20W 1.2K OHM J (32AF43)
RZ14	24011821	CHIP, METAL FILM, 1/20W 820 OHM J (32AF43)
RZ15	24011821	CHIP, METAL FILM, 1/20W 820 OHM J (32AF43)
RZ17	24011471	CHIP, METAL FILM, 1/20W 470 OHM J (32AF43)
RZ18	24011122	CHIP, METAL FILM, 1/20W 1.2K OHM J (32AF43)
RZ19	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J (32AF43)
RZ20	24011101	CHIP, METAL FILM, 1/20W 100 OHM J (32AF43)
RZ22	24011471	CHIP, METAL FILM, 1/20W 470 OHM J (32AF43)
RZ29	24366331	CARBON FILM, 1/6W 330 OHM J (32AF43)
RZ30	24366331	CARBON FILM, 1/6W 330 OHM J (32AF43)
RZ010	24366330	CARBON FILM, 1/6W 33 OHM J (32AF53)
RZ020	24011152	CHIP, METAL FILM, 1/20W 1.5K OHM J (32AF53)
RZ030	24011682	CHIP, METAL FILM, 1/20W 6.8K OHM J (32AF53)
RZ040	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J (32AF53)
RZ050	24011102	CHIP, METAL FILM, 1/20W 1K OHM J (32AF53)

Location No.	Parts No.	Description
RZ060	24011681	CHIP, METAL FILM, 1/20W 680 OHM J (32AF53)
RZ070	24871331	CHIP, METAL FILM, 1/8W 330 OHM J (32AF53)
RZ080	24011151	CHIP, METAL FILM, 1/20W 150 OHM J (32AF53)
RZ090	24366330	CARBON FILM, 1/6W 33 OHM J (32AF53)
RZ100	24011102	CHIP, METAL FILM, 1/20W 1K OHM J (32AF53)
RZ110	24011102	CHIP, METAL FILM, 1/20W 1K OHM J (32AF53)
RZ120	24011182	CHIP, METAL FILM, 1/20W 1.8K OHM J (32AF53)
RZ130	24011392	CHIP, METAL FILM, 1/20W 3.9K OHM J (32AF53)
RZ140	24011123	CHIP, METAL FILM, 1/20W 12K OHM J (32AF53)
RZ150	24011151	CHIP, METAL FILM, 1/20W 150 OHM J (32AF53)
RZ160	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J (32AF53)
RZ170	24871181	CHIP, METAL FILM, 1/8W 180 OHM J (32AF53)
RZ180	24011121	CHIP, METAL FILM, 1/20W 120 OHM J (32AF53)
RZ210	24011271	CHIP, METAL FILM, 1/20W 270 OHM J (32AF53)
RZ243	24011220	CHIP, METAL FILM, 1/20W 22 OHM J (32AF53)
RZ244	24011152	CHIP, METAL FILM, 1/20W 1.5K OHM J (32AF53)
RZ245	24011220	CHIP, METAL FILM, 1/20W 22 OHM J (32AF53)
RZ246	24011152	CHIP, METAL FILM, 1/20W 1.5K OHM J (32AF53)
RZ265	24011392	CHIP, METAL FILM, 1/20W 3.9K OHM J (32AF53)
RZ266	24011103	CHIP, METAL FILM, 1/20W 10K OHM J (32AF53)
RZ280	24011102	CHIP, METAL FILM, 1/20W 1K OHM J (32AF53)
RZ330	24011101	CHIP, METAL FILM, 1/20W 100 OHM J (32AF53)
RZ340	24011101	CHIP, METAL FILM, 1/20W 100 OHM J (32AF53)
RZ370	24000445	CHIP J (32AF53)UMPER, J (32AF53)
RZ380	24011103	CHIP, METAL FILM, 1/20W 10K OHM J (32AF53)
RZ400	24000445	CHIP J (32AF53)UMPER, J (32AF53)
RZ410	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J (32AF53)
RZ420	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J (32AF53)
RZ430	24000445	CHIP J (32AF53)UMPER, J (32AF53)
RZ490	24011102	CHIP, METAL FILM, 1/20W 1K OHM J (32AF53)
RZ600	24011102	CHIP, METAL FILM, 1/20W 1K OHM J (32AF53)
RZ710	24011101	CHIP, METAL FILM, 1/20W 100 OHM J (32AF53)
RZ800	24000445	CHIP J (32AF53)UMPER, J (32AF53)
RZ810	24000445	CHIP J (32AF53)UMPER, J (32AF53)
RZ820	24011101	CHIP, METAL FILM, 1/20W 100 OHM J (32AF53)
RZ830	24011102	CHIP, METAL FILM, 1/20W 1K OHM J (32AF53)
COILS & TRANSFORMERS		
L101	23289845	COIL, PEAKING, TRF4680AT
L201	23238703	COIL, PEAKING, TRF4820AJ
L301	23103880	COIL, CHOKE, TEM2011Y
L400	23238714	COIL, PEAKING, TRF4100AJ
⚠ L441	23233036	COIL, HOLIZ LINEARITY, TLN2083AT
L442	23248121	COIL, CHOKE, TLN3383D
⚠ L461	23248290	COIL, CHOKE, TLN3333GH

Location No.	Parts No.	Description
L500	23289840	COIL, PEAKING, TRF4100AT
L501	23289844	COIL, PEAKING, TRF4470AT
L502	23289844	COIL, PEAKING, TRF4470AT
L702	23261974	COIL, FERRITE BEAD, HC5-035
L704	23103859	FILTER, FERRITE CHOKE, TEM2011
L705	23103859	FILTER, FERRITE CHOKE, TEM2011
L805	23248213	COIL, CHOKE, TLN3481AH
L806	23248213	COIL, CHOKE, TLN3481AH
L815	23103145	FERRITE CHOKE, TEM2011AA
L816	23103145	FERRITE CHOKE, TEM2011AA
L883	23103145	FERRITE CHOKE, TEM2011AA
L885	23248073	COIL, CHOKE, TLN3299D
L886	23103145	FERRITE CHOKE, TEM2011AA
L888	23280016	COIL, PEAKING, TRF4100AZ
L889	23280016	COIL, PEAKING, TRF4100AZ
L890	23103145	FERRITE CHOKE, TEM2011AA
L893	23280016	COIL, PEAKING, TRF4100AZ
⚠ L901	23200559	COIL, DG 0.65CU 42T-2LOOP, TSB-2412AH
L902	23289101	COIL, PEAKING, TRF4101AF
L903	23289101	COIL, PEAKING, TRF4101AF
L904	23289101	COIL, PEAKING, TRF4101AF
L905	23289390	COIL, PEAKING, TRF4390AF
L906	23289390	COIL, PEAKING, TRF4390AF
L907	23289390	COIL, PEAKING, TRF4390AF
L908	23289100	COIL, PEAKING, TRF4100AF
L910	23237991	COIL, PEAKING, TRF4479AC
L2704	23103145	FERRITE CHOKE, TEM2011AA
L2705	23103906	FILTER, CHIP BEAD INDUCTOR, TEM2118AS
L2711	23289840	COIL, PEAKING, TRF4100AT
LA01	23289100	COIL, PEAKING, TRF4100AF
LB01	23262302	COIL, IF COIL 11.8MHZ 5SVL, TRF1247AH
LI01	23246051	COIL, CHIP-INDUCTOR-0.22MMH K, COLTRF4R22CE
LI02	23246104	CHIP INDUCTOR, TRFR5C
LI51	23289470	COIL, PEAKING, TRF4470AF
LI52	23289120	COIL, PEAKING, TRF4120AF
LI53	23289180	COIL, PEAKING, TRF4180AF
LI54	23232050	COIL, VARIABLE, TRF3554D
LI55	23289129	COIL, PEAKING 1.0MMH J 0405, TRF41R2AF
LI56	23289180	COIL, PEAKING, TRF4180AF
LI57	23289228	COIL, PEAKING, TRF4R22AF
⚠ LJ901	23200544	COIL, GEOMAGNETIC CORRECTION, TSB-2421AH
LV01	23289840	COIL, PEAKING, TRF4100AT
LV02	23103852	COIL, FILTER, TEM2028AH
LV99	23103845	COIL, TEM2030AY
LZ01	23238710	COIL, PEAKING, TRF4220AJ (32AF43)
LZ02	23103145	FERRITE CHOKE, TEM2011AA (32AF43)
LZ04	23103145	FERRITE CHOKE, TEM2011AA (32AF43)
LZ05	23238714	COIL, PEAKING, TRF4100AJ (32AF43)
LZ06	23103906	FILTER, CHIP BEAD INDUCTOR, TEM2118AS (32AF43)
LZ07	24000445	CHIP JUMPER, 1608TYPE (32AF43)
LZ08	23238707	COIL, PEAKING, TRF4390AJ (32AF43)
LZ11	23238710	COIL, PEAKING, TRF4220AJ (32AF43)
LZ12	23238710	COIL, PEAKING, TRF4220AJ (32AF43)
LZ020	23238714	COIL, PEAKING, TRF4100AJ
LZ030	23103145	FERRITE CHOKE, TEM2011AA (32AF53)
LZ200	23246316	COIL, CHIP INDUCTOR 4.7MMH, COLTRF44R7CR (32AF53)
LZ210	23246317	COIL, CHIP INDUCTOR, TRF4100CR (32AF53)
LZ230	23103906	FILTER, CHIP BEAD INDUCTOR, TEM2118AS (32AF53)
LZ240	23103906	FILTER, CHIP BEAD INDUCTOR, TEM2118AS (32AF53)

Location No.	Parts No.	Description
LZ250	23103906	FILTER, CHIP BEAD INDUCTOR, TEM2118AS (32AF53)
LZ260	23103145	FERRITE CHOKE, TEM2011AA (32AF53)
LZ280	23103145	FERRITE CHOKE, TEM2011AA (32AF53)
LZ320	23103906	FILTER, CHIP BEAD INDUCTOR, TEM2118AS (32AF53)
LZ330	23103906	FILTER, CHIP BEAD INDUCTOR, TEM2118AS (32AF53)
LZ350	23103906	FILTER, CHIP BEAD INDUCTOR, TEM2118AS (32AF53)
LZ360	23103906	FILTER, CHIP BEAD INDUCTOR, TEM2118AS (32AF53)
LZ370	23103906	FILTER, CHIP BEAD INDUCTOR, TEM2118AS (32AF53)
LZ380	23103906	FILTER, CHIP BEAD INDUCTOR, TEM2118AS (32AF53)
LZ390	23103906	FILTER, CHIP BEAD INDUCTOR, TEM2118AS (32AF53)
LZ810	23103906	FILTER, CHIP BEAD INDUCTOR, TEM2118AS (32AF53)
LZ960	23246206	COIL, CHIP INDUCTOR, TRF48R2CG (32AF53)
⚠ T400	23224386	TRANSFORMER, FOCUS, TLN2220AH
T401	23224383	TRANSFORMER, DRIVE, TLN1098AL
⚠ T461	23236672	TRANSFORMER, FLY-BACK, TFB4172AD
⚠ T461Z	23236683	TRANSFORMER, FLY-BACK, TFB4172ZD
⚠ T801	23211739	COIL, LINE FILTER, TRF3229AL
⚠ T840	23217572	TRANSFORMER, POWER EI28 11.5V, TPW1571AT
⚠ T862	23217617	TRANSFORMER, CONV TRS ER4220, TPW3525AB
SEMICONDUCTORS		
Q201	23314163	TRANSISTOR, 2SA1162-Y
Q202	23314475	TRANSISTOR, 2SC2712-Y
Q203	23314475	TRANSISTOR, 2SC2712-Y
Q204	23114499	TRANSISTOR, RN1404
Q206	23114499	TRANSISTOR, RN1404
Q220	23114460	TRANSISTOR, RN1204
Q301	23319787	IC, LA7833S
Q301B	72471082	SCREW, 3X10MM
Q370	23314962	TRANSISTOR, KTA1266 Y
Q390	23906596	IC, BA4558
Q391	23205079	TRANSISTOR, 2SC4686A
Q402	23114755	TRANSISTOR, 2SC2482FA-1
Q403	23114733	TRANSISTOR, 2SC2655-Y
Q404	23314955	TRANSISTOR, 2SD2553(FA)
Q404B	72471082	SCREW, 3X10MM
Q460	23314141	TRANSISTOR, 2SC3852
Q460B	72471082	SCREW, 3X10MM
Q461	23314962	TRANSISTOR, KTA1266 Y
Q470	23314965	TRANSISTOR, KTC3198 Y
Q471	23114426	TRANSISTOR, 2SA1015-O(TEM
Q472	23314965	TRANSISTOR, KTC3198 Y
Q480	23114759	TRANSISTOR, 2SA949-Y
Q481	23314965	TRANSISTOR, KTC3198 Y
Q482	23314965	TRANSISTOR, KTC3198 Y
Q483	23114469	TRANSISTOR, RN2201
Q501	23906843	IC, TA1310N
Q503	23314475	TRANSISTOR, 2SC2712-Y
Q610	23906582	IC, AN5277
Q610B	70391355	SCREW, BIND HEAD TAP-TITE B, BITTB 3X8 SZN
Q611	70114261	TRANSISTOR, 2SC3326-A
Q612	23314163	TRANSISTOR, 2SA1162-Y
Q613	70114261	TRANSISTOR, 2SC3326-A

Location No.	Parts No.	Description
Q706	23314965	TRANSISTOR, KTC3198 Y
Q707	23314965	TRANSISTOR, KTC3198 Y
Q709	23314965	TRANSISTOR, KTC3198 Y
Q710	23314962	TRANSISTOR, KTA1266 Y
Q711	23314909	TRANSISTOR, 2SA1837
Q712	23314912	TRANSISTOR, 2SC4793
Q719	23314965	TRANSISTOR, KTC3198 Y
Q720	23314965	TRANSISTOR, KTC3198 Y
⚠ Q801	23135039	IC, HYBRID VDSS=450V, STR-G9628
Q801B	72471082	SCREW, 3X10MM
Q805	23114459	TRANSISTOR, RN1205
Q830	23009188	IC, KIA7805API
Q830B	70391355	SCREW, BIND HEAD TAP-TITE B, BITTB 3X8 SZN
Q835	23009187	IC, REGULATOR +9V 4%, KIA7809API
Q835B	70391355	SCREW, BIND HEAD TAP-TITE B, BITTB 3X8 SZN
Q840	23009440	IC, REGULATOR +5V 4% DIP8, NJM78LR05BD
Q843	23114459	TRANSISTOR, RN1205
⚠ Q862	23009270	IC, PHOTO COUPLER, PS2581L1(D)
⚠ Q883	23319692	IC, SE130N, LF4
Q901	23314780	TRANSISTOR, 2SC4544
Q902	23314965	TRANSISTOR, KTC3198 Y
Q903	23314780	TRANSISTOR, 2SC4544
Q904	23314965	TRANSISTOR, KTC3198 Y
Q905	23314780	TRANSISTOR, 2SC4544
Q906	23314965	TRANSISTOR, KTC3198 Y
Q907	23314962	TRANSISTOR, KTA1266 Y
Q908	23114429	TRANSISTOR, 2SC2120-Y(TE
Q910	23314965	TRANSISTOR, KTC3198 Y
Q911	23314965	TRANSISTOR, KTC3198 Y
Q912	23314962	TRANSISTOR, KTA1266 Y
Q913	23314962	TRANSISTOR, KTA1266 Y
Q914	23314965	TRANSISTOR, KTC3198 Y
Q920	23314965	TRANSISTOR, KTC3198 Y
Q921	23314965	TRANSISTOR, KTC3198 Y
Q922	23314965	TRANSISTOR, KTC3198 Y
Q923	23314965	TRANSISTOR, KTC3198 Y
Q924	23314965	TRANSISTOR, KTC3198 Y
Q925	23314965	TRANSISTOR, KTC3198 Y
Q2701	23906946	IC, CM0016AD
Q4460	23314475	TRANSISTOR, 2SC2712-Y
Q4461	23314475	TRANSISTOR, 2SC2712-Y
Q4462	23314475	TRANSISTOR, 2SC2712-Y
QA01	23009451	IC, MCU 1CHIP 8BIT 8M 42P, TMP88CS38BN-4NA2
QA02	23009328	IC, AT24C16-10PI-2.7
QB03	23114459	TRANSISTOR, RN1205
QB11	23114528	TRANSISTOR, 2SC1740S
QB22	70114402	TRANSISTOR, 2SC3437-Y
QB23	23314475	TRANSISTOR, 2SC2712-Y
QB30	23314965	TRANSISTOR, KTC3198 Y
QB40	23314475	TRANSISTOR, 2SC2712-Y
QB41	23314475	TRANSISTOR, 2SC2712-Y
QD41	23009377	IC, A-PRO BBE AGC SDMP30, NJW1137M(TE1) (32AF53)
QG01	23009321	IC, US MTS DECODER QFP 48P T6, CXA2134Q-T6
QG60	23906597	IC, BA4558F
QG61	23119228	IC, UPC1406HA
QG80	23314163	TRANSISTOR, 2SA1162-Y
QI01	23114611	TRANSISTOR, 2SC3357
QI02	23314994	TRANSISTOR, 2SA1576A106
QI03	23314993	TRANSISTOR, 2SC4081 Q
QI05	23009240	IC, VIF/SIF SSOP24PIN, TA1274F(FA03A5,EL)

Location No.	Parts No.	Description
QJ01	23906077	IC, OP-AMP, TCA0372 DP1
QS60	23314475	TRANSISTOR, 2SC2712-Y
QS61	23314475	TRANSISTOR, 2SC2712-Y
QS62	23114493	TRANSISTOR, RN2404
QS63	70114261	TRANSISTOR, 2SC3326-A
QS64	70114261	TRANSISTOR, 2SC3326-A
QS101	23906597	IC, BA4558F
QS106	70129558	IC, MM1231XF
QV01	23000368	IC, MM1495XF
QV05	23114500	TRANSISTOR, RN1403
QV10	23114500	TRANSISTOR, RN1403
QV60	23314965	TRANSISTOR, KTC3198 Y
QZ01	23000559	IC, TC90A49F(ELP)
QZ02	23314163	TRANSISTOR, 2SA1162-Y (32AF43)
QZ03	23314163	TRANSISTOR, 2SA1162-Y (32AF43)
QZ04	23314163	TRANSISTOR, 2SA1162-Y (32AF43)
QZ05	23314475	TRANSISTOR, 2SC2712-Y (32AF43)
QZ06	23314163	TRANSISTOR, 2SA1162-Y (32AF43)
QZ07	23314163	TRANSISTOR, 2SA1162-Y (32AF43)
QZ08	23314475	TRANSISTOR, 2SC2712-Y (32AF43)
QZ030	23009241	IC, +2.6V 2% REG., R1121N261B-TR (32AF53)
QZ040	23314163	TRANSISTOR, 2SA1162-Y (32AF53)
QZ050	23314163	TRANSISTOR, 2SA1162-Y (32AF53)
QZ060	23314475	TRANSISTOR, 2SC2712-Y (32AF53)
QZ140	23314163	TRANSISTOR, 2SA1162-Y (32AF53)
QZ200	23314475	TRANSISTOR, 2SC2712-Y (32AF53)
QZ210	23314475	TRANSISTOR, 2SC2712-Y (32AF53)
QZ220	23314475	TRANSISTOR, 2SC2712-Y (32AF53)
QZ230	23314163	TRANSISTOR, 2SA1162-Y (32AF53)
QZ240	23314475	TRANSISTOR, 2SC2712-Y (32AF53)
QZ250	23314163	TRANSISTOR, 2SA1162-Y (32AF53)
QZ260	23906770	IC, BA033FP (32AF53)
D101	23316755	DIODE, ZENER, MTZJ33C
D201	23316817	DIODE, 1SS120-7
D221	23316817	DIODE, 1SS120-7
D222	23316817	DIODE, 1SS120-7
D223	23316817	DIODE, 1SS120-7
D224	23316817	DIODE, 1SS120-7
D252	23118518	DIODE, ZENER, RD9.1ES
D253	23118518	DIODE, ZENER, RD9.1ES
D301	23357365	DIODE, 1N4004A-B5
D302	23118094	DIODE, EU2A
D310	23118859	DIODE, 1SS133
D313	23118859	DIODE, 1SS133
D316	23316679	DIODE, ZENER, MTZJ6.8C
D319	23316719	DIODE, ZENER, MTZJ12B
D320	23316719	DIODE, ZENER, MTZJ12B
D370	23316672	DIODE, ZENER, MTZJ5.6B
D371	23118859	DIODE, 1SS133
D390	23118637	DIODE, ZENER VZ2.41-2.65 DO-34 RD2.4ESA B2
D395	23316725	DIODE, ZENER, MTZJ15B
D404	23316254	DIODE, ERC06-15
D406	23118094	DIODE, EU2A
D409	23316690	DIODE, ZENER, MTZJ10B
D411	23118520	DIODE, ZENER, RD8.2ES B2
D430	23118510	DIODE, ZENER, RD12ES
D441	23316687	DIODE, ZENER, MTZJ9.1B
D442	23118094	DIODE, EU2A
D460	23316969	DIODE, ERD29-06
D462	23118859	DIODE, 1SS133
D463	23118859	DIODE, 1SS133
D466	23118635	DIODE, ZENER, RD2.7ESA B2
D467	23118094	DIODE, EU2A
D471	23118094	DIODE, EU2A

Location No.	Parts No.	Description
⚠ D472	23115774	DIODE, ZENER, RD6.2E(FA-1)
D473	23118859	DIODE, 1SS133
D480	23316681	DIODE, ZENER, MTZJ7.5B
D611	23118859	DIODE, 1SS133
D612	23118859	DIODE, 1SS133
D613	23118859	DIODE, 1SS133
D614	23118859	DIODE, 1SS133
D615	23118859	DIODE, 1SS133
D704	23118859	DIODE, 1SS133
D705	23118859	DIODE, 1SS133
D715	23118859	DIODE, 1SS133
D720	23118859	DIODE, 1SS133
D721	23118859	DIODE, 1SS133
⚠ D801	23316391	DIODE, D3SB60(4103)
D805	23118859	DIODE, 1SS133
D806	23357366	DIODE, FR105-B5
D807	23118859	DIODE, 1SS133
D810	23316269	DIODE, AK04
D811	23118859	DIODE, 1SS133
D840	23357365	DIODE, 1N4004A-B5
D841	23357365	DIODE, 1N4004A-B5
D842	23357365	DIODE, 1N4004A-B5
D843	23357365	DIODE, 1N4004A-B5
D845	23118859	DIODE, 1SS133
D855	23118859	DIODE, 1SS133
⚠ D882	23118635	DIODE, ZENER, RD2.7ESA B2
D883	23357344	DIODE, RU3AM (32AF43)
D883	23118338	DIODE, RU4AM LF-K2 (32AF53)
D885	23357366	DIODE, FR105-B5
D890	23118052	DIODE, RU4Z LF-L1
⚠ D899	24019485	VARISTOR, TNR10V431K
D901	23118859	DIODE, 1SS133
D903	23118859	DIODE, 1SS133
D904	23118859	DIODE, 1SS133
D905	23118859	DIODE, 1SS133
D906	23118859	DIODE, 1SS133
D907	23118859	DIODE, 1SS133
D908	23118859	DIODE, 1SS133
D909	23118859	DIODE, 1SS133
D910	23118859	DIODE, 1SS133
D911	23115337	DIODE, 1S1834
D2701	23118859	DIODE, 1SS133
D2702	23118859	DIODE, 1SS133
D3440	23115999	DIODE, 1S1832
D3441	23115999	DIODE, 1S1832
DA42	23118529	DIODE, ZENER, RD5.6ES B2
DB01	23358571	DIODE, LED, BT-H254N-31-SH
DB03	23358522	DIODE, LED, SIR-56SB3F
DB05	23316675	DIODE, ZENER, MTZJ6.2B
DB30	23118859	DIODE, 1SS133
DB45	23316817	DIODE, 1SS120-7
DS106	23316669	DIODE, ZENER, MTZJ5.1B
DV46	23316716	DIODE, ZENER, MTZJ11B
DV47	23316686	DIODE, ZENER, MTZJ9.1A

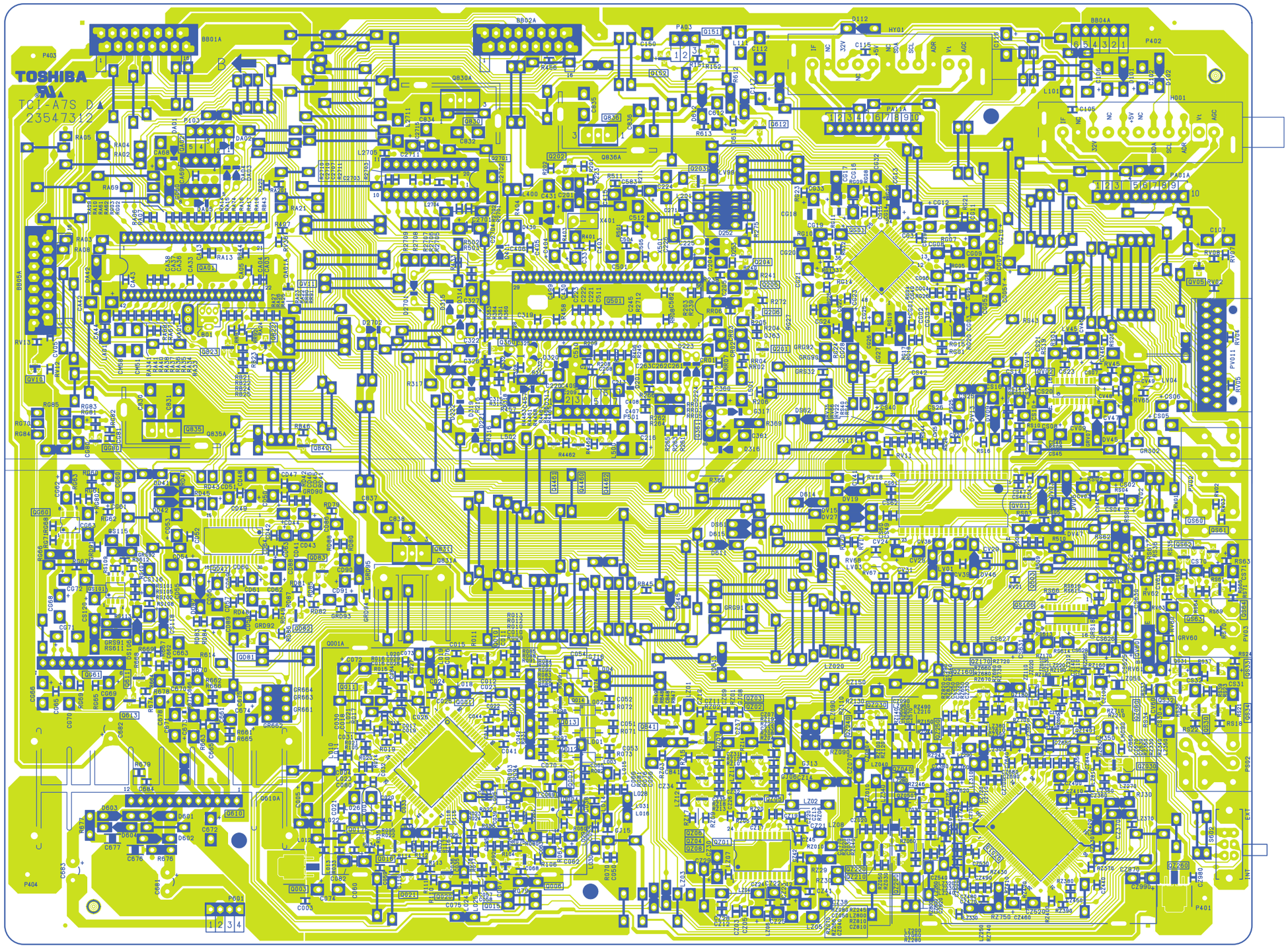
MISCELLANEOUS

B205	23974994	BAND, KESSOKU
B230	23037312	SCREW, BTBW3X12SZN
B231	23035412	SCREW, BTB4X12SZN
B232	23035312	SCREW, BTB3X12SZN
BB01A	23713201	CONNECTOR, PLUG B-B 16P
BB01B	23713202	CONNECTOR, SOCKET B-B 16P
BB02A	23713201	CONNECTOR, PLUG B-B 16P
BB02B	23713202	CONNECTOR, SOCKET B-B 16P

Location No.	Parts No.	Description
BB03C	23368627	CONNECTOR, BRIDGE B-B 8P 2.5JST 08TM-2.5FJ-E
BB04A	23902749	CONNECTOR, SOCKET, B-B 6P
BB04B	23368517	CONNECTOR, PLUG, B-B 6P
BB05A	23713201	CONNECTOR, PLUG B-B 16P
BB05B	23713013	CONNECTOR, SOCKET, B-B 16P 1.5
BB160	23368627	CONNECTOR, BRIDGE B-B 8P 2.5JST 08TM-2.5FJ-E
BB16A	23903022	CONNECTOR, BASE B-B 8P 2.5 JST
BB16B	23903022	CONNECTOR, BASE B-B 8P 2.5 JST
BB16C	23368627	CONNECTOR, BRIDGE B-B 8P 2.5JST 08TM-2.5FJ-E
⚠ F470	23144854	FUSE, 125V 1.6A-T U/C MINI
F470A	23165433	FUSE HOLDER, 5.2 SOC
⚠ F801	23144518	FUSE, CARTRIDGE, 125V 10A
F801A	23165433	FUSE HOLDER, 5.2 SOC
F801B	23165433	FUSE HOLDER, 5.2 SOC
⚠ F802	23144681	FUSE, CARTRIDGE 5X20, 125V 4.0A
F802A	23165433	FUSE HOLDER, 5.2 SOC
F802B	23165433	FUSE HOLDER, 5.2 SOC
F804	23144681	FUSE, CARTRIDGE 5X20, 125V 4.0A
F804A	23165433	FUSE HOLDER, 5.2 SOC
F804B	23165433	FUSE HOLDER, 5.2 SOC
G040	23103145	FERRITE CHOKE, TEM2011AA
G060	24366470	CARBON FILM, 1/6W 47 OHM J
G114	23103880	COIL, CHOKE, TEM2011Y
G217	24366273	CARBON FILM, 1/6W 27K OHM J
G301	24366102	CARBON FILM, 1/6W 1K OHM J
G317	23118859	DIODE, 1SS133
G380	24946226	CARBON CONPOSITI0N, 1/2W 22M OHM K
G403	24946223	CARBON COMPOSITION, GF 1/2W 22K K
G405	24214472	CERAMIC DISC, 500V B 4700PF K
G463	23103859	FILTER, FERRITE CHOKE, TEM2011
G465	24366332	CARBON FILM, 1/6W 3.3K OHM J
G845	23103145	FERRITE CHOKE, TEM2011AA
GJ04	23238714	COIL, PEAKING, TRF4100AJ (32AF43)
GJ06	24000445	CHIP JUMPER, 1608TYPE (32AF43)
GJ08	24000445	CHIP JUMPER, 1608TYPE (32AF43)
GJ13	24000445	CHIP JUMPER, 1608TYPE (32AF53)
GRD91	24000445	CHIP JUMPER, 1608TYPE (32AF53)
GRD93	24000445	CHIP JUMPER, 1608TYPE (32AF43)
GRD94	24000445	CHIP JUMPER, 1608TYPE (32AF43)
GRS01	24000445	CHIP JUMPER, 1608TYPE
GRV07	24000445	CHIP JUMPER, 1608TYPE
GRV60	24000445	CHIP JUMPER, 1608TYPE
KB01	23906805	IC, REMOTE PHOTO RECIEVER, PIC-TB17
M461A	23192957	ANODE CAP ASSY, TCC5602AT
M461B	23505090	CABLE, CABLE FOCUS
M461C	23505089	CABLE, FOCUS
M461D	23504719	CABLE, SCREEN
N726	23969041	TAPE WHITE 3M #1, W=1 INCH, TNP COMMON
⚠ P801	23372113	POWER CORD, U/C 125V10A HSV 2 CMC-02P 1
P910	23164725	CONNECTOR, PLUG 2P
PV02	23365949	JACK, 5P, 1E:OFF+2R:OFF+2L:OFF, JALC
PV03	23365821	PIN JACK, 3P, 1E:OFF+1R:OFF+1L:OFF
PV05	23365819	JACK, 1S3P
PV011	23365238	CONNECTOR, JACK, 1S:SW+P(1E+1E:F+2R:F+2L:F)
SA01	23145227	SWITCH, PUSH, 1C1P
SA02	23145227	SWITCH, PUSH, 1C1P
SA03	23145227	SWITCH, PUSH, 1C1P
SA04	23145227	SWITCH, PUSH, 1C1P
SA05	23145227	SWITCH, PUSH, 1C1P
SA06	23145227	SWITCH, PUSH, 1C1P
SA07	23145227	SWITCH, PUSH, 1C1P
SA08	23145227	SWITCH, PUSH, 1C1P
⚠ SR81	23146564	RELAY, DC12V, TV5, DG-3
SR83	23146564	RELAY, DC12V, TV5, DG-3
⚠ V901A	23903027	CRT SOCKET, 8P SMK CVT3251-0176 CVT3251-0176
W661	23351128	SPEAKER, SPK1389, 60X120 16-OHM 6W
W662	23351128	SPEAKER, SPK1389, 60X120 16-OHM 6W
X401	23153721	CERAMIC RESONATOR, 503KHZ
X501	23153961	CRYSTAL, 3.58MHZ
XA01	23153504	CERAMIC RESONATOR, 8.00MHZ 25OHM
Z401	23140203	SPARK GAP, 2.0-3.0KV C-010, AG20PC152F-L3N
ZI51	23303197	PIF SAW FILTER, TSF1248P
ZI52	23303271	FILTER, TRAP 4.5MHZ, TCF1138AM
ZI53	23303289	FILTER, TCF1141AM
ZI55	23303244	FILTER, CERAMIC TRAP, TCF1121AM
PC BOARD ASSEMBLIES		
✻ U001	23788269	IF BOARD, PD1022A
✻ U801	23788568	POWER/DEF BOARD, PD1019E (32AF43)
✻ U801	23788309	POWER/DEF BOARD, PD1019C (32AF53)
✻ U901	23788267	CRT.D BOARD, PB9973M
✻ U902	23788301	SIGNAL BOARD, PD1208A (32AF43)
✻ U902	23788302	SIGNAL BOARD, PD1208B (32AF53)
✻ UA01	23788270	CONTROL-1 BOARD, PD0658B
✻ UA02	23788271	CONTROL-2 BOARD, PD1024A
PICTURE TUBE		
⚠ V901	23324035	PICTURE TUBE, 32VPF 1H STDIMP, A80AJZ90X07
TUNER		
⚠ H001	23321456	TUNER, US181CH IIC F 5V, ELA51LX7
ACCESSORIES		
⚠ K912	23306495	REMOCON HAND UNIT IR, CTVUSA, CT-90157 (32AF43)
⚠ K912	23306496	REMOCON HAND UNIT IR, CTVUSA, CT-90158 (32AF53)
⚠ Y101	23565902	OWNER'S MANUAL, ENGLISH/FRENCH, 32AF43
⚠ Y101	23565903	OWNER'S MANUAL, ENGLISH/FRENCH, 32AF53
CABINET PARTS		
A201	23530811	COVER, FRONT COVER ASSY 32AF43 (32AF43)
A201	23530819	COVER, FRONT COVER ASSY 32AF53 (32AF53)
A213	23428070	DOOR, DOOR 36AF62 (32AF43)
A213	23428191	DOOR, DOOR REG BBE 32AF53 (32AF53)
A214	23451976	PUSH CATCH, CLICK
A223	23445611	BUTTON, POWER BUTTON 36AF62, 36AF62
A224	23445610	BUTTON, CONTROL BUTTON 36HFX72, 36HFX72
A411	23540031	COVER, BACK COVER PROPER, 32AFX60
A701	23064255	CARTON, CARTON, 32AF60
A703	23946056	PACKING, TOP PACKING 32AFX60, 32AFX60
A708	23946057	PACKING, BOTTOM PACKING 32AFX60, 32AFX60

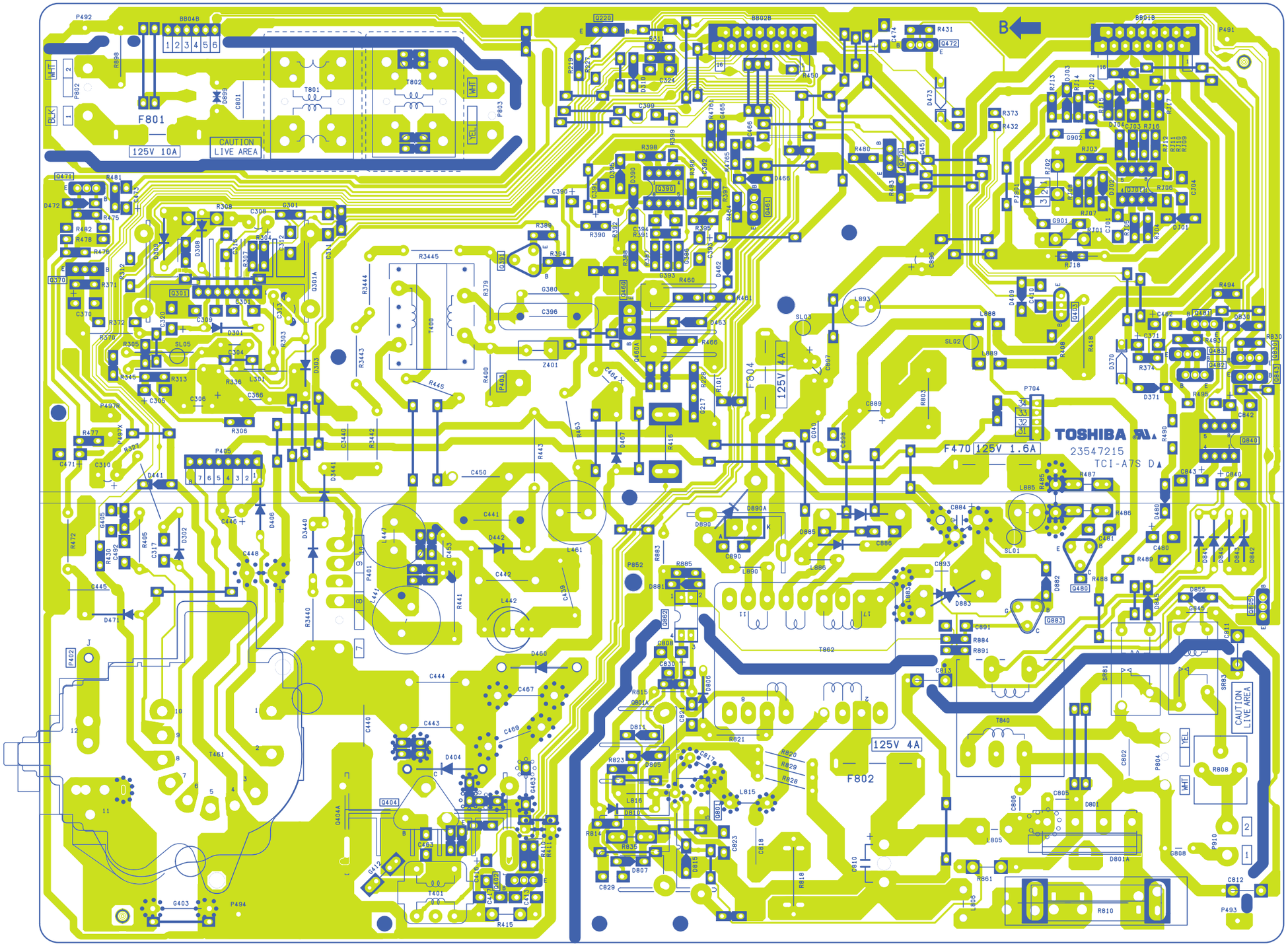
SIGNAL BOARD PD1208

BOTTOM (FOIL) SIDE



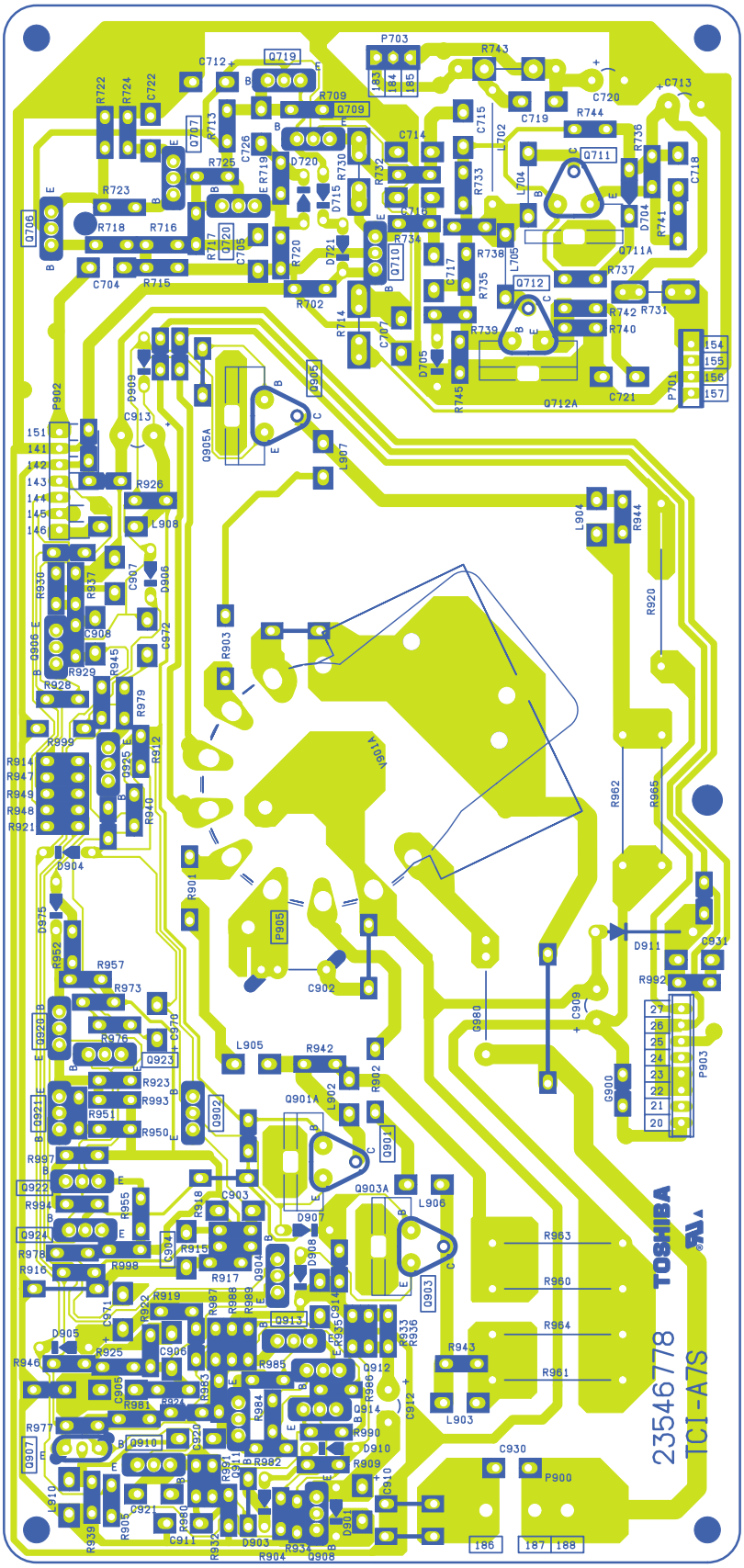
POWER/DEF BOARD PD1019

BOTTOM (FOIL) SIDE



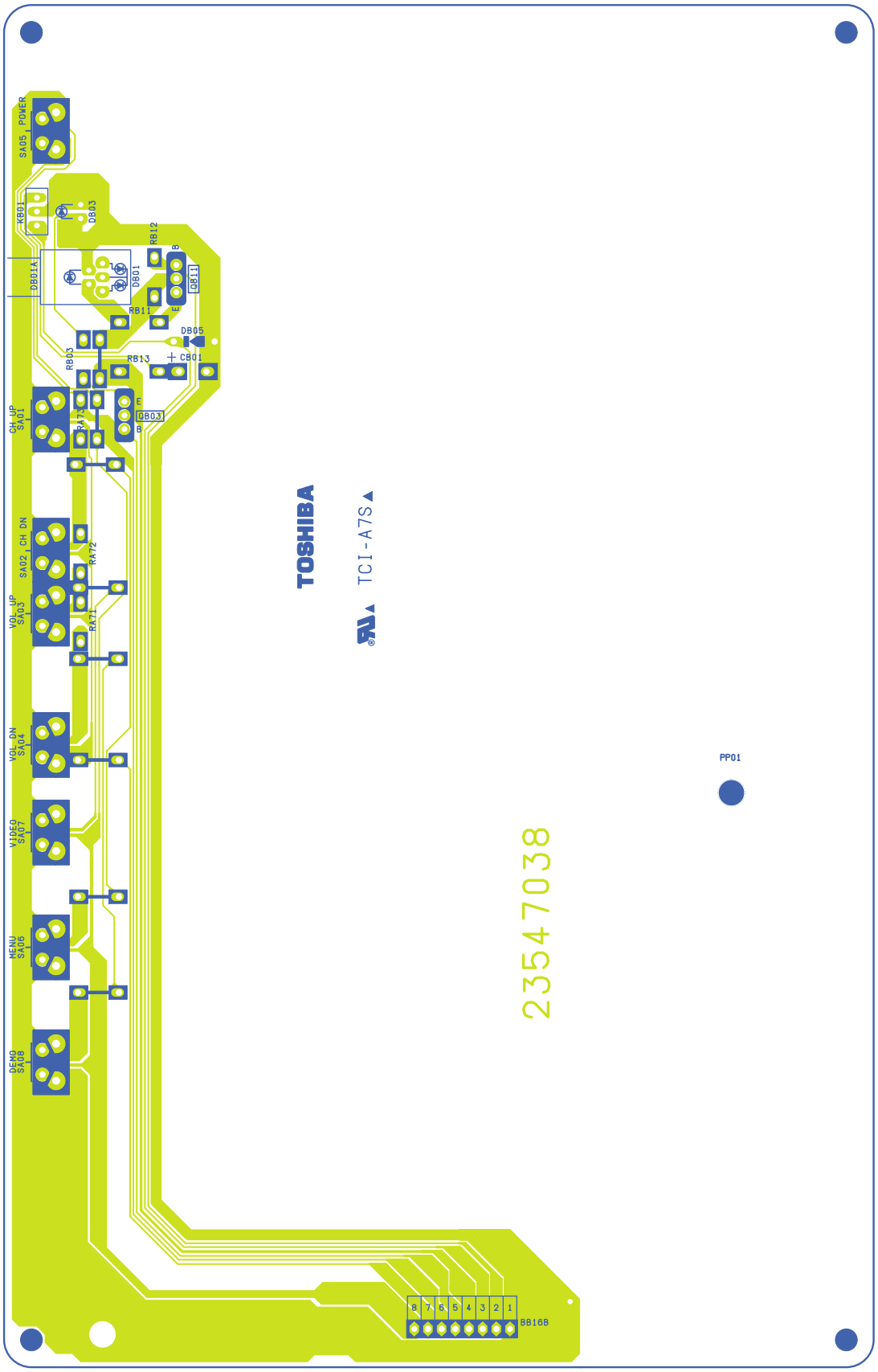
CRT DRIVE BOARD PB9973M

BOTTOM (FOIL) SIDE



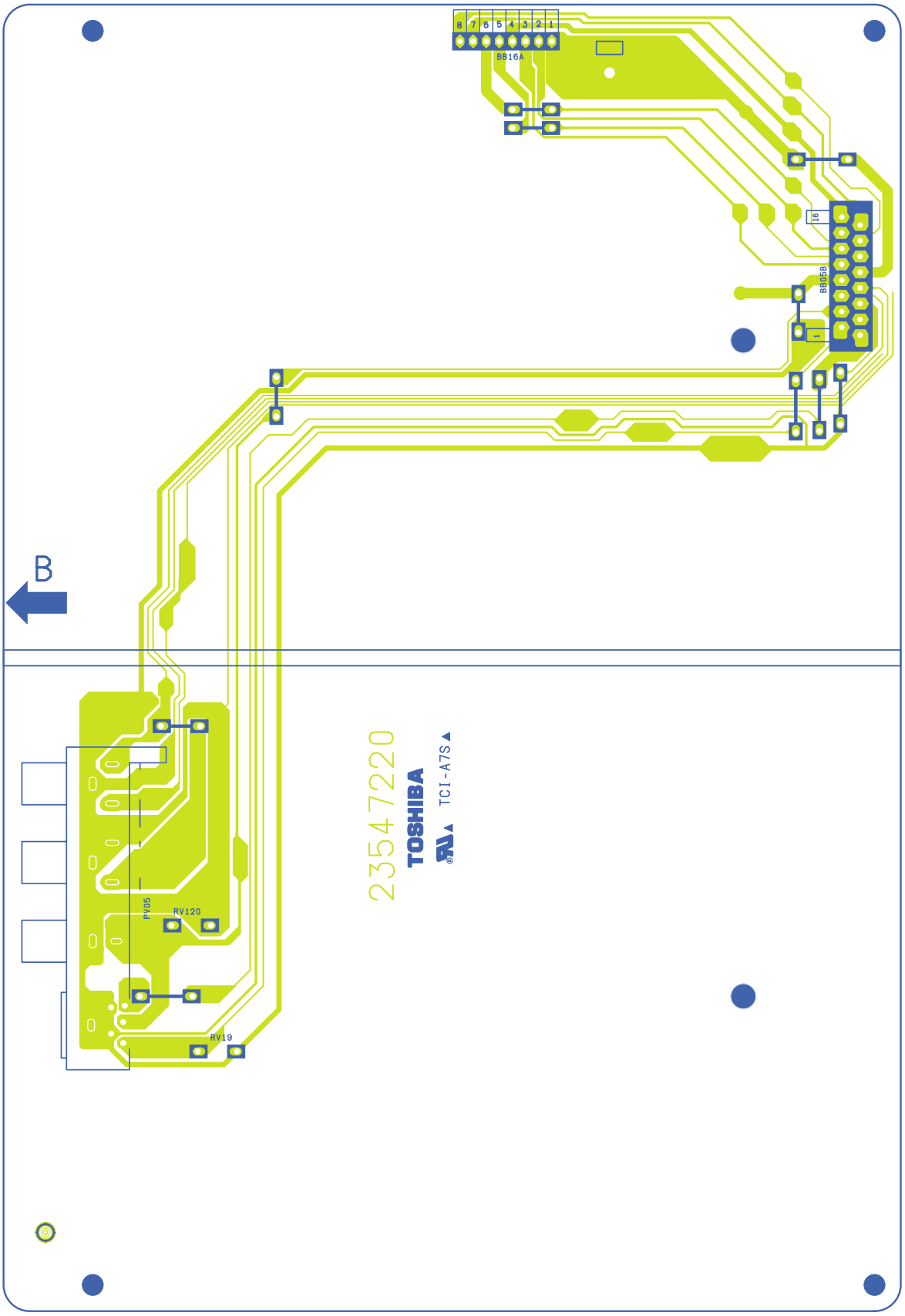
CONTROL-1 BOARD PD0658B

BOTTOM (FOIL) SIDE



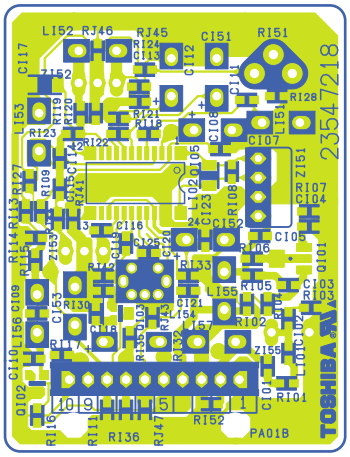
CONTROL-2 BOARD PD1024A

BOTTOM (FOIL) SIDE



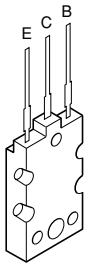
IF BOARD PD1022A

BOTTOM (FOIL) SIDE

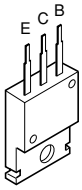


TERMINAL VIEW OF TRANSISTORS

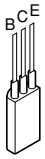
① 2SD2253
(old)
2SC5243



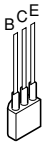
② 2SC3852
2SD1763A
2SC1569
2SC4544
2SA1788
2SA1306
2SA1186A



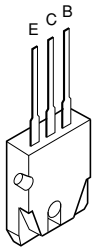
③ 2SC752GTM
2SC2482
2SC2655
2SC4721P



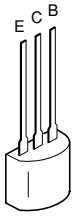
④ 2SC752
2SA562TM
2SA1015
2SC1815
2SC2878
2SC1740S
2SC2120
2SA9335



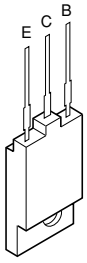
⑤ 2SA1788



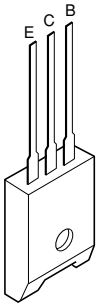
⑥ RN2203
RN2201
RN2004
RN1203
RN1204
RN2204
RN1205
RN1202
RN1201



⑦ 2SD1554
2SD2253
2SD1556
2SD2553
2SC5143



⑧ ON4409



SCHEMATIC DIAGRAM

MODEL : 32AF43 / 32AF53

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON THE MANUAL FOR THIS MODEL.

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on the MANUAL for this model. Do not degrade the safety of the receiver through improper servicing.

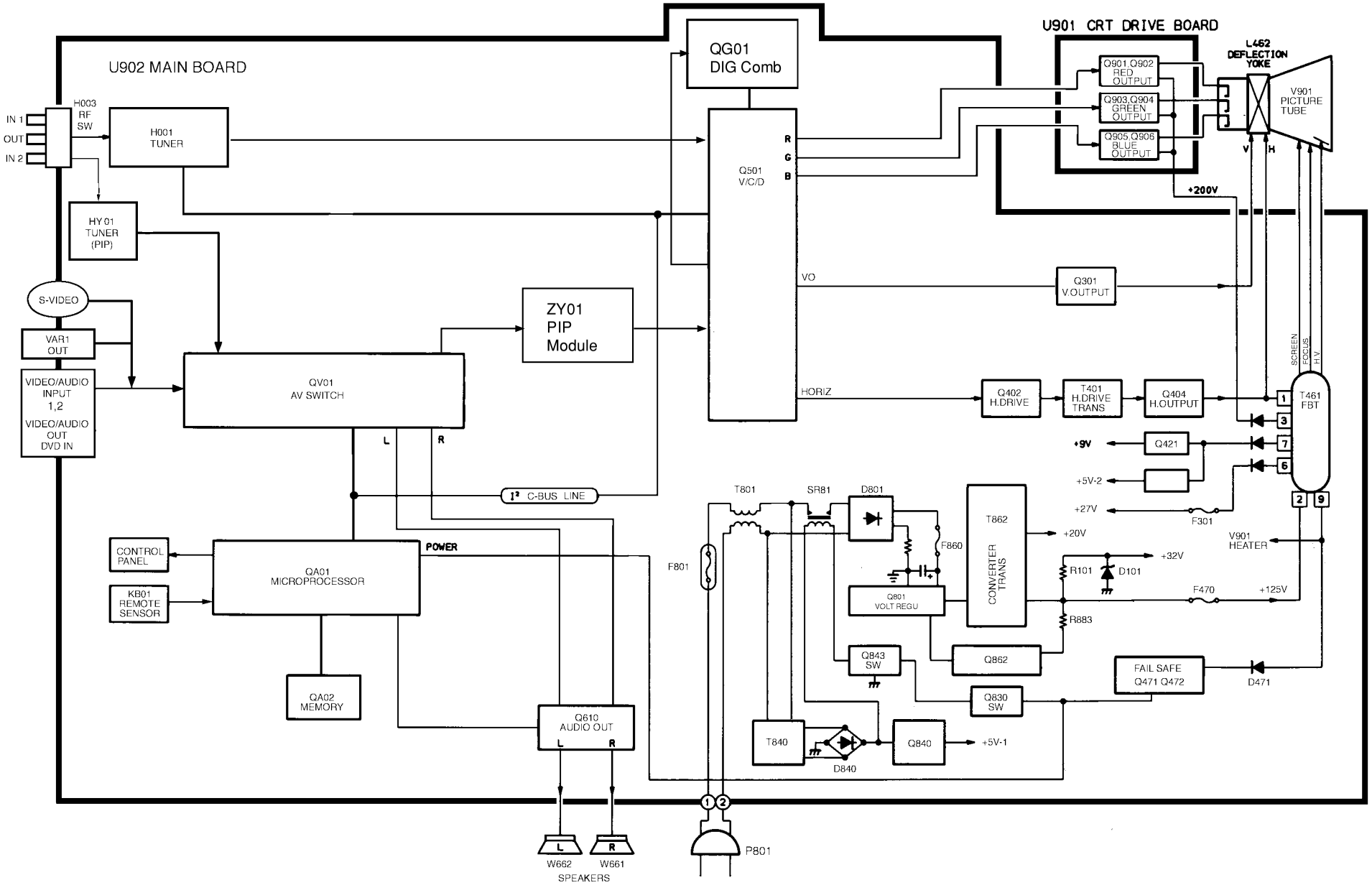
NOTE:

1. RESISTOR Resistance is shown in ohm [K = 1.000, M = 1.000.000]. All resistors are 1/6W and 5% tolerance carbon resistor, unless otherwise noted as the following marks.
   1/2R = Metal or Metal oxide of 1/2 watt 1/2S = Carbon compsistion of 1/2 watt
   1RF = Fuse resistor of 1 watt 10W = Cement of 10 watt
   K = ±10% G = ±2% F = ±1%
2. CAPACITOR Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in μF, and the values more than 1 in pF.
   All capacitors are ceramic 50V, unless otherwise noted as the following marks.
   Electolytic capacitor Mylar capacitor
3. The parts indicated with " ⚠ " have special characteristics, and should be replaced with identical parts only.
4. Voltages read with DIGITAL MULTI-METER from point indicated to chassing ground, using a color bar signal with all controls at normal, line voltage 120 volts.
5. Waveforms are taken receiving color bar signal with enough sensitivity.
6. Voltage reading shown are nominal values and may vary ±20% except H.V.

■ **SCHEMATIC DIAGRAM STRUCTURE:**

- SIGNAL Circuit (32AF43)
  - BLOCK DIAGRAM [SHEET - 1/11] 1/38
  - IF [SHEET - 2/11] 2/38
  - AV-SW [SHEET - 3/11] 3/38
  - 3D_YCS [SHEET - 4/11] 4/38
  - VCD [SHEET - 5/11] 5/38
  - PIP [SHEET - 6/11] 6/38
  - AUDIO [SHEET - 7/11] 7/38
  - MICON [SHEET - 8/11] 8/38
  - BANKAN [SHEET - 9/11] 9/38
  - 3L_COMB [SHEET - 10/11] 10/38
  - LowB REG. [SHEET - 11/11] 11/38
- SIGNAL Circuit (32AF53)
  - BLOCK DIAGRAM [SHEET - 1/11] 12/38
  - IF [SHEET - 2/11] 13/38
  - AV-SW [SHEET - 3/11] 14/38
  - 3D_YCS [SHEET - 4/11] 15/38
  - VCD [SHEET - 5/11] 16/38
  - PIP [SHEET - 6/11] 17/38
  - AUDIO [SHEET - 7/11] 18/38
  - MICON [SHEET - 8/11] 19/38
  - BANKAN [SHEET - 9/11] 20/38
  - 3L_COMB [SHEET - 10/11] 21/38
  - LowB REG. [SHEET - 11/11] 22/38
- POWER / DEF Circuit (32AF43)
  - BLOCK DIAGRAM [SHEET - 1/6] 23/38
  - V-DEF_DPC [SHEET - 2/6] 24/38
  - H-DEF [SHEET - 3/6] 25/38
  - POWER [SHEET - 4/6] 26/38
  - TILT [SHEET - 5/6] 27/38
  - BANKAN [SHEET - 6/6] 28/38
- POWER / DEF Circuit (32AF53)
  - BLOCK DIAGRAM [SHEET - 1/6] 29/38
  - V-DEF_DPC [SHEET - 2/6] 30/38
  - H-DEF [SHEET - 3/6] 31/38
  - POWER [SHEET - 4/6] 32/38
  - TILT [SHEET - 5/6] 33/38
  - BANKAN [SHEET - 6/6] 34/38
- CRT DRIVE Circuit 35/38
- IF Circuit 36/38
- CONTROL-1 Circuit 37/38
- CONTROL-2 Circuit 38/38

CIRCUIT BLOCK DIAGRAM



SPECIFICATIONS (Representative : 32AF43)	
TELEVISION SYSTEM	NTSC standard
CHANNEL COVERAGE	VHF: 2 through 13 UHF: 14 through 69 Cable TV: mid band (A-8 through A-1, A through I) super band (J through W) hyper band (AA through ZZ, AAA, BBB) ultra band (65 through 94, 100 through 125)
POWER SOURCE	120V AC, 60Hz
AUDIO POWER	5W + 5W
SPEAKER TYPE	2-3/8 x 4-3/4 inches (60 x 120 mm)
VIDEO/AUDIO TERMINALS	S-VIDEO INPUT Y: 1V (p-p), 75 ohm, negative sync. C: 0.286V (p-p) (burst signal), 75 ohm VIDEO/AUDIO INPUT VIDEO: 1V(p-p), 75 ohm, negative sync. AUDIO: 150mV(rms) (30% modulation equivalent, 47k ohm) ColorStream™ (Color Difference) VIDEO/AUDIO INPUT Y: 1V (p-p), 75 ohm Cr: 0.7V (p-p), 75 ohm Cb: 0.7V (p-p), 75 ohm AUDIO: 2V (p-p), 1 kohm
DIMENSIONS	Width 875 mm Height 670 mm Depth 575 mm
MASS	74.5 kg (Approx.)

* Please refer to owner's manual in detail.

– END –

TOSHIBA CORPORATION
1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105-8001, JAPAN

SCHEMATIC DIAGRAM

MODEL : 32AF43 / 32AF53

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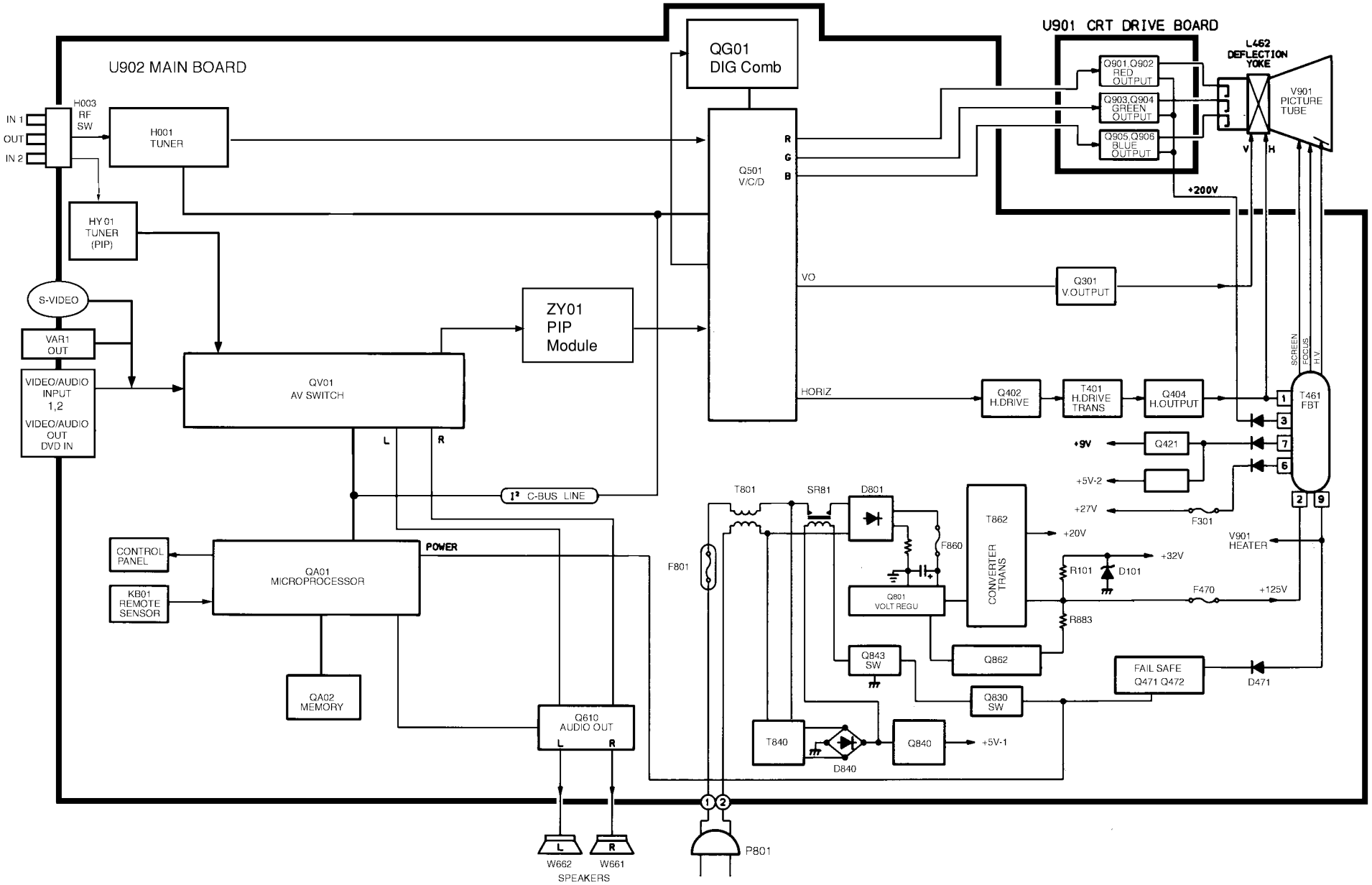
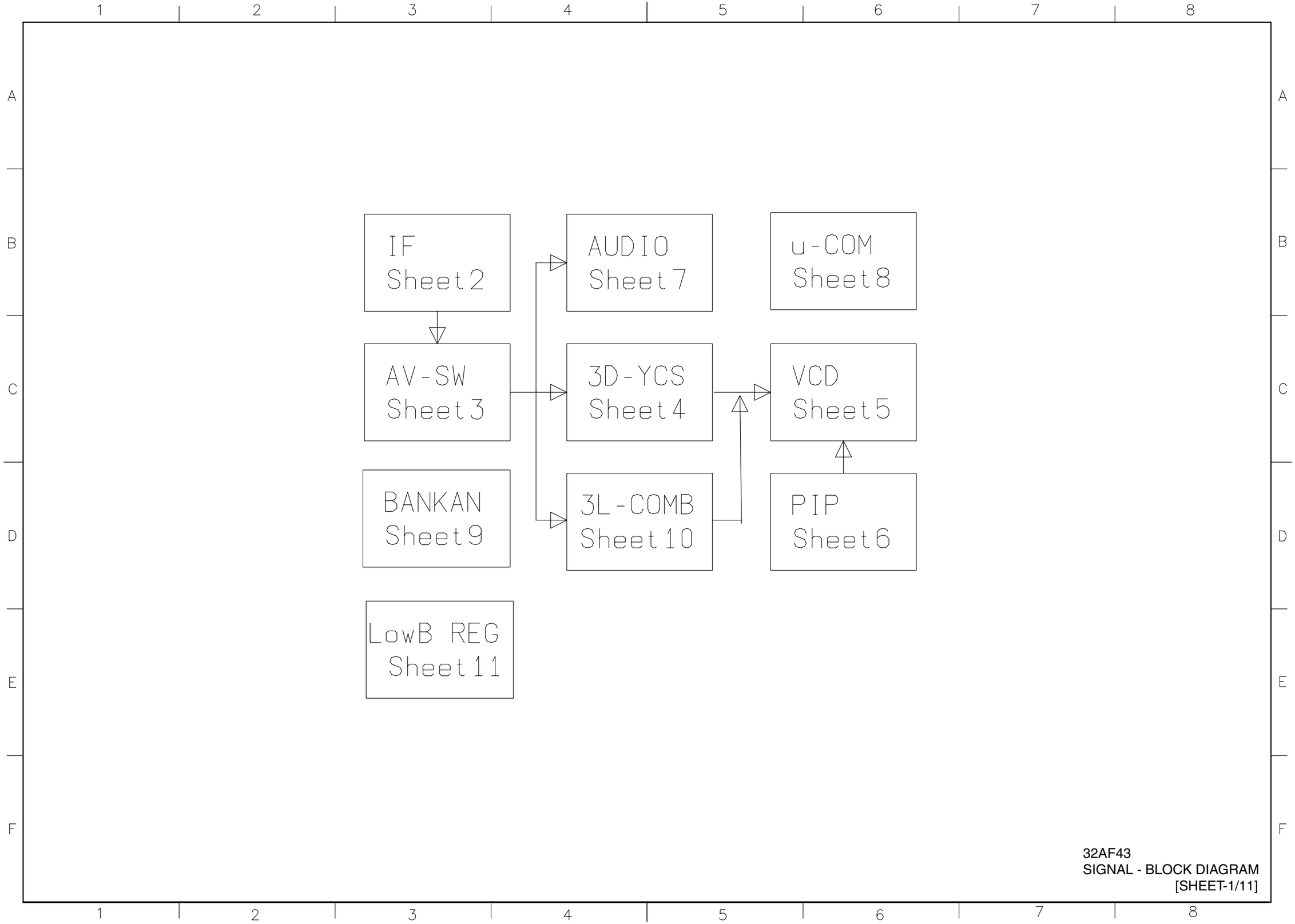
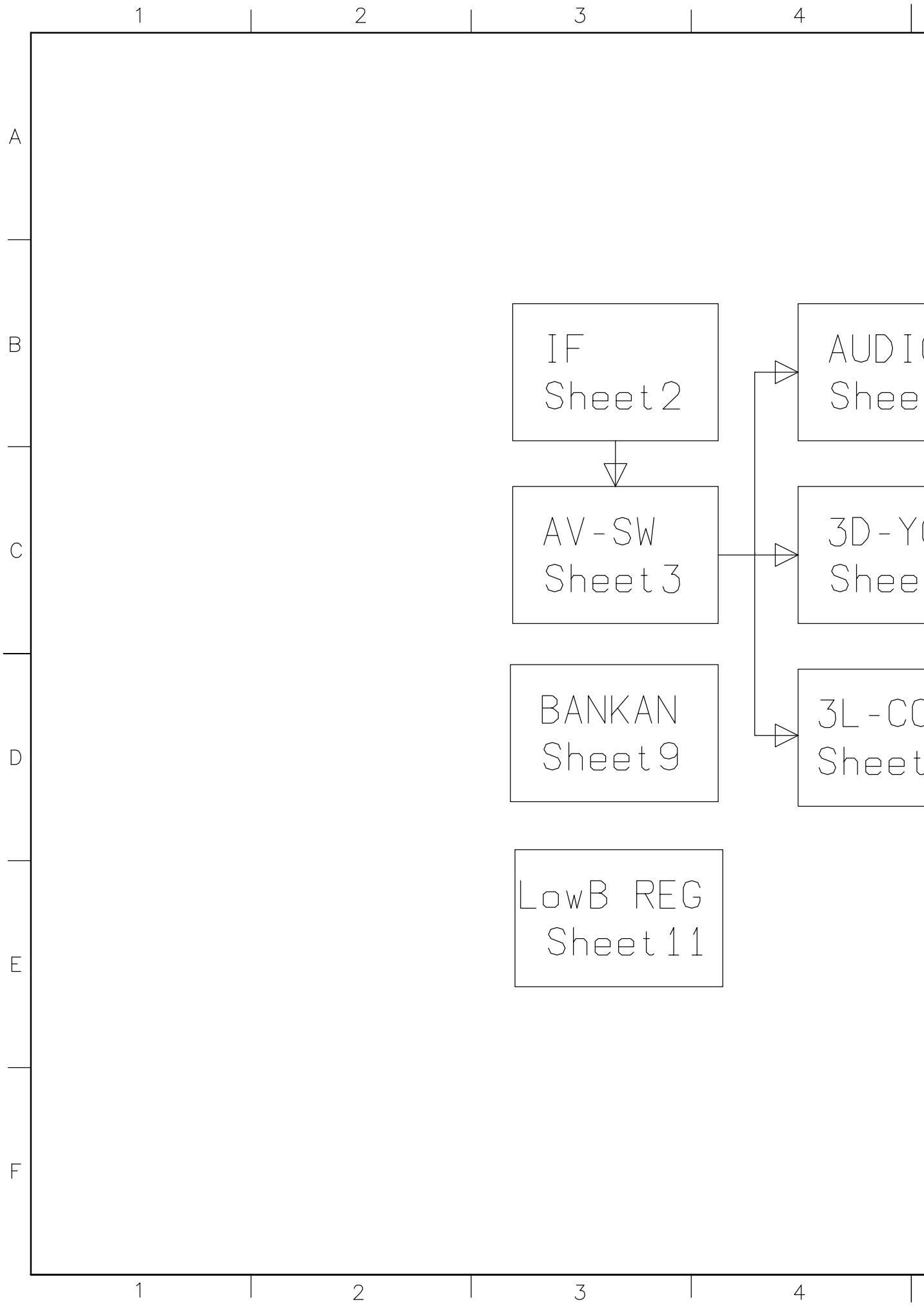
  - IF [SHEET - 2/11] 2/38
  - AV-SW [SHEET - 3/11] 3/38
  - 3D_YCS [SHEET - 4/11] 4/38
  - VCD [SHEET - 5/11] 5/38
  - PIP [SHEET - 6/11] 6/38
  - AUDIO [SHEET - 7/11] 7/38
  - MICON [SHEET - 8/11] 8/38
  - BANKAN [SHEET - 9/11] 9/38
  - 3L_COMB [SHEET - 10/11] 10/38
  - LowB REG. [SHEET - 11/11] 11/38
- SIGNAL Circuit (32AF53)
  - BLOCK DIAGRAM [SHEET - 1/11] 12/38
  - IF [SHEET - 2/11] 13/38
  - AV-SW [SHEET - 3/11] 14/38
  - 3D_YCS [SHEET - 4/11] 15/38
  - VCD [SHEET - 5/11] 16/38
  - PIP [SHEET - 6/11] 17/38
  - AUDIO [SHEET - 7/11] 18/38
  - MICON [SHEET - 8/11] 19/38
  - BANKAN [SHEET - 9/11] 20/38
  - 3L_COMB [SHEET - 10/11] 21/38
  - LowB REG. [SHEET - 11/11] 22/38
- POWER / DEF Circuit (32AF43)
  - BLOCK DIAGRAM [SHEET - 1/6] 23/38
  - V-DEF_DPC [SHEET - 2/6] 24/38
  - H-DEF [SHEET - 3/6] 25/38
  - POWER [SHEET - 4/6] 26/38
  - TILT [SHEET - 5/6] 27/38
  - BANKAN [SHEET - 6/6] 28/38
- POWER / DEF Circuit (32AF53)
  - BLOCK DIAGRAM [SHEET - 1/6] 29/38
  - V-DEF_DPC [SHEET - 2/6] 30/38
  - H-DEF [SHEET - 3/6] 31/38
  - POWER [SHEET - 4/6] 32/38
  - TILT [SHEET - 5/6] 33/38
  - BANKAN [SHEET - 6/6] 34/38
- CRT DRIVE Circuit 35/38
- IF Circuit 36/38
- CONTROL-1 Circuit 37/38
- CONTROL-2 Circuit 38/38

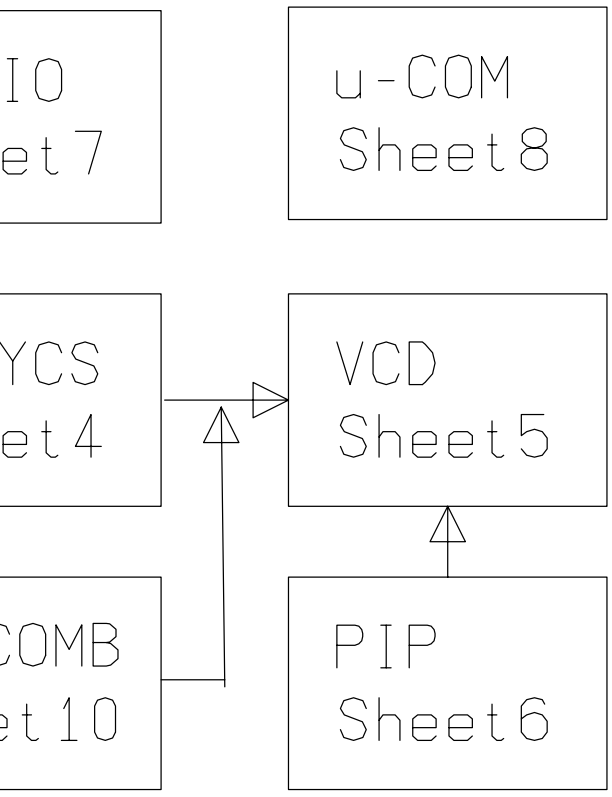
CIRCUIT BLOCK DIAGRAM



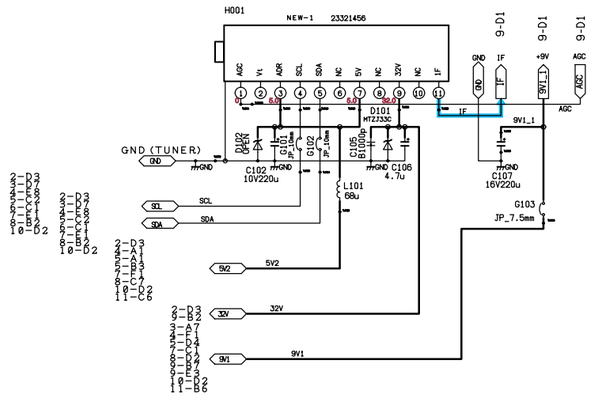


32AF43
SIGNAL - BLOCK DIAGRAM
[SHEET-1/11]


1
2
3
4
A
B
C
D
E
F
IF
Sheet2
AV-SW
Sheet3
BANKAN
Sheet9
LowB REG
Sheet11
AUDI
Shee
3D-Y
Shee
3L-C
Sheet



32AF43
SIGNAL - BLOCK DIAGRAM
[SHEET-1/11]



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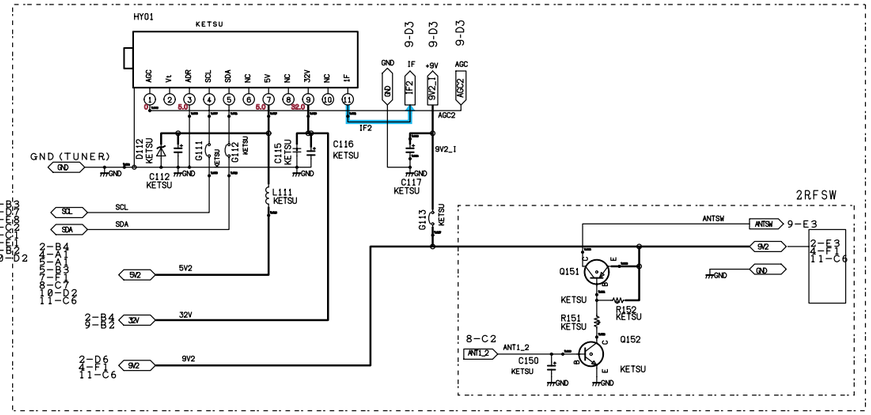
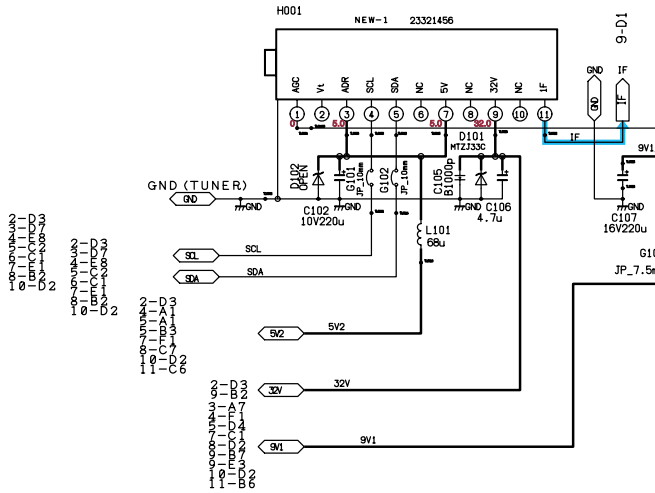
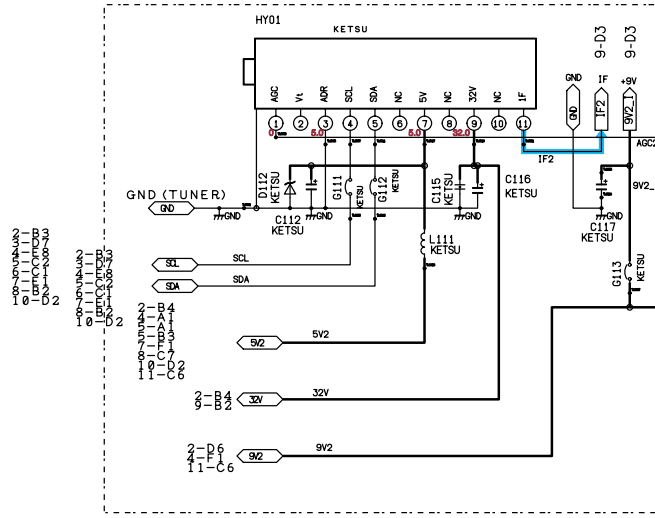
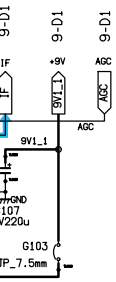


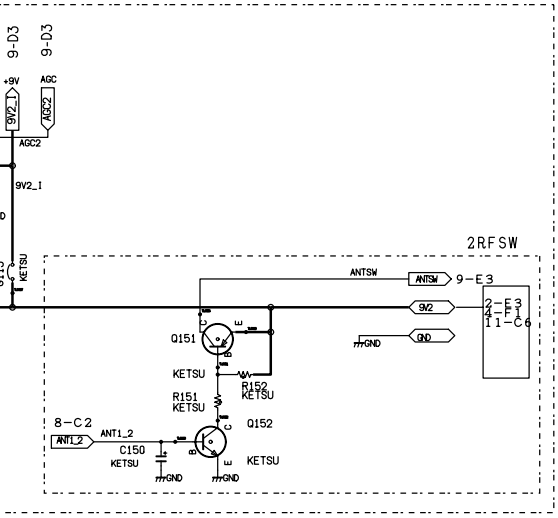
32AF43
SIGNAL - IF
[SHEET-2/11]



32AFX63/36AFX63 only







A

B

C

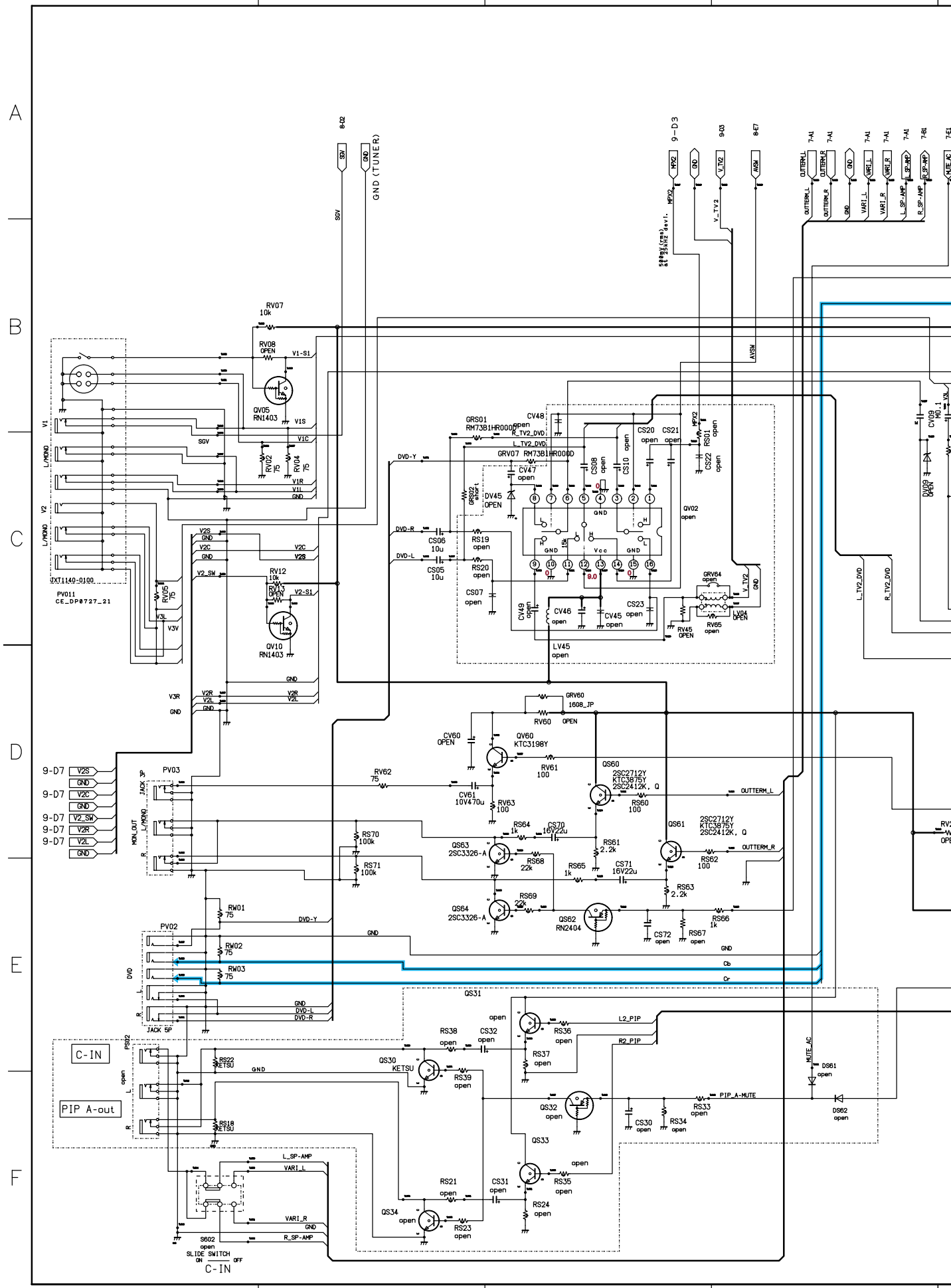
D

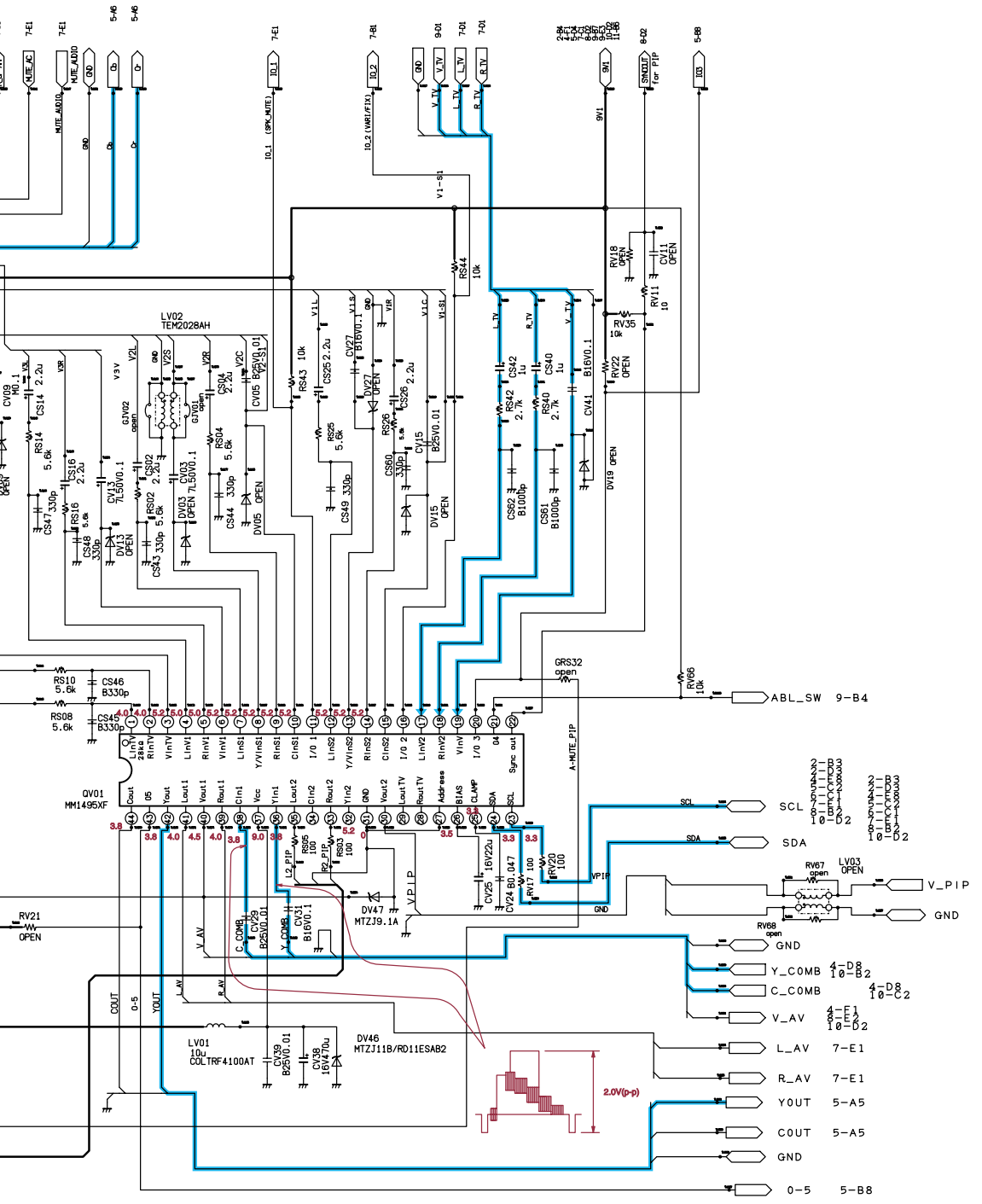
E

F

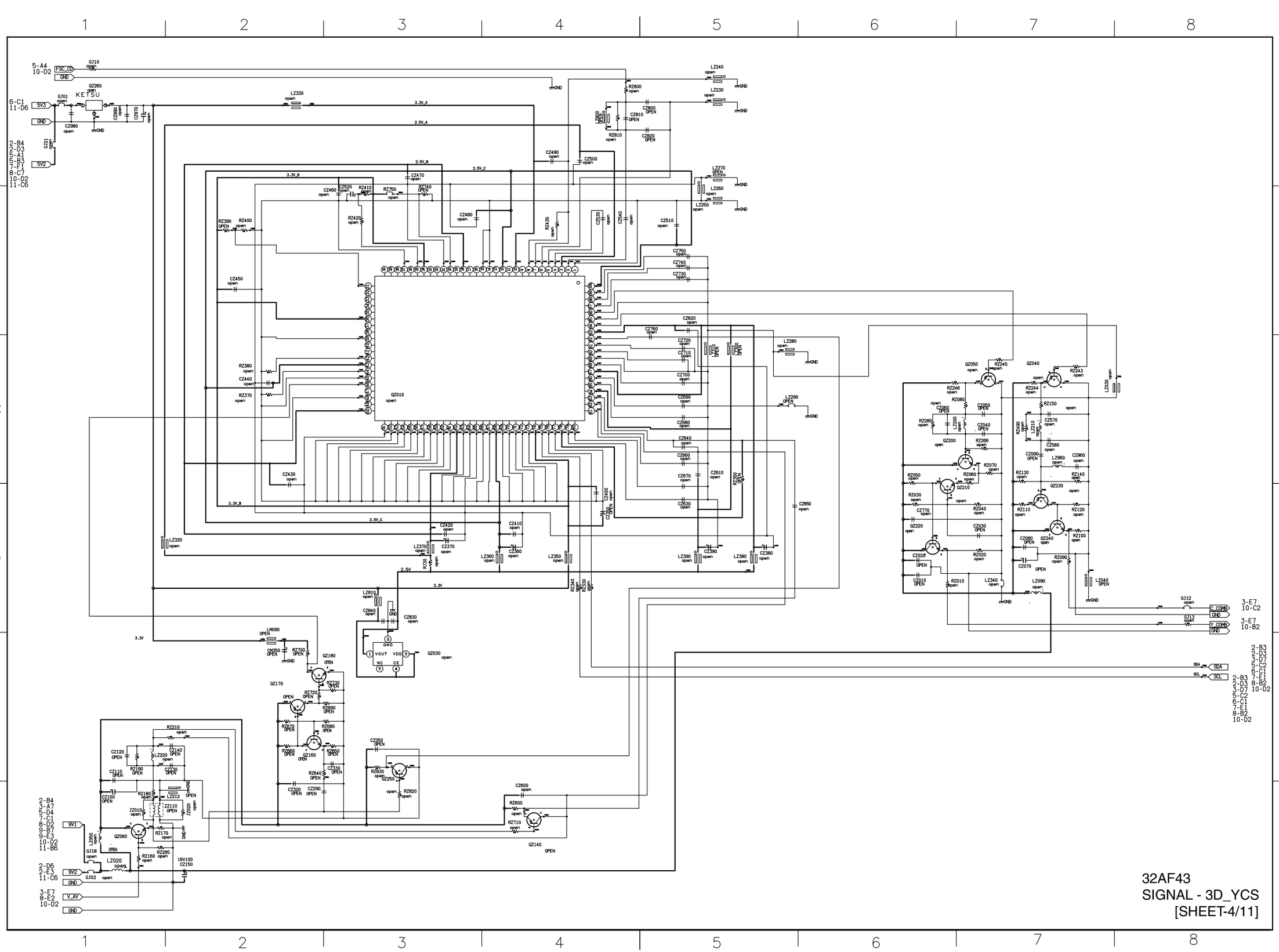
32AF43
SIGNAL - IF
[SHEET-2/11]

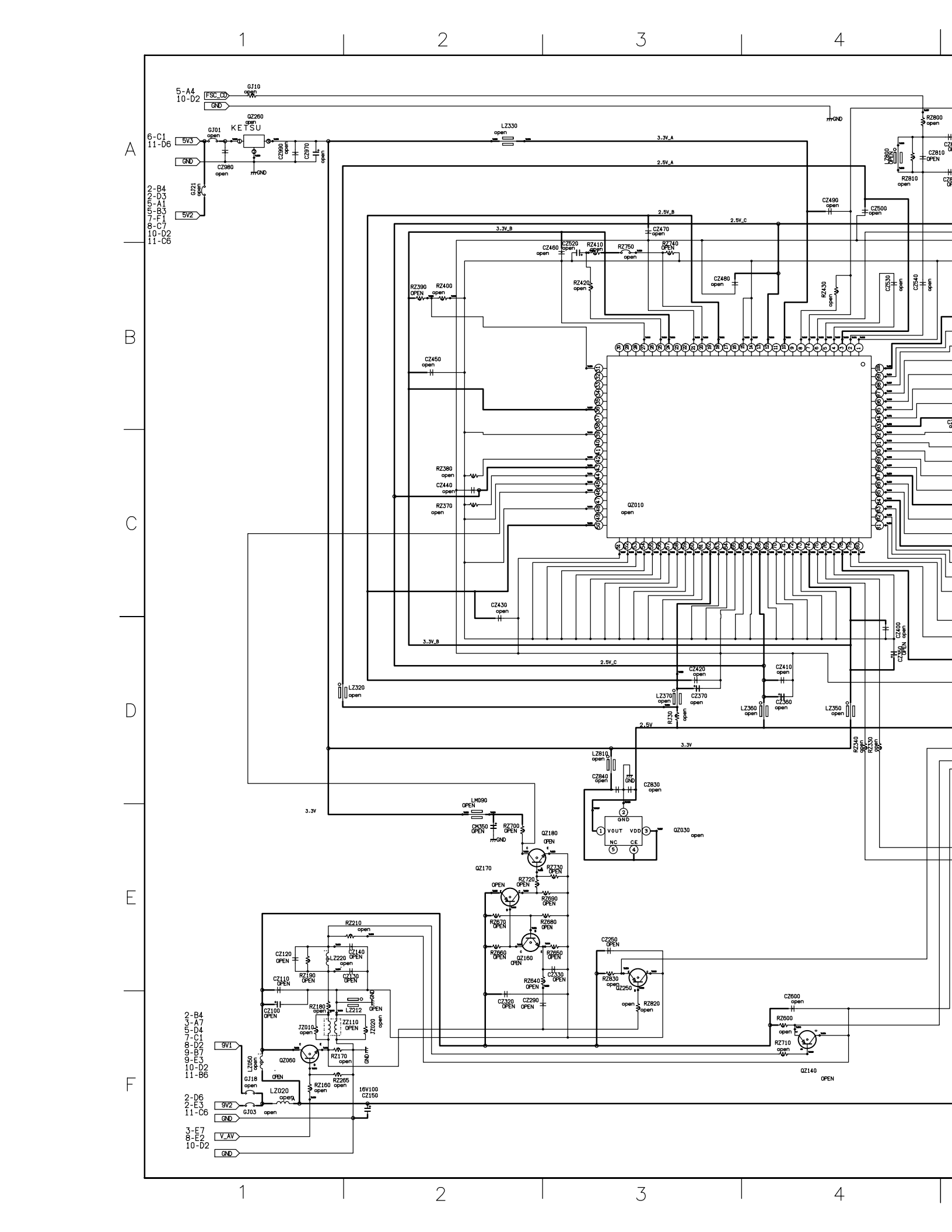
32AF43
SIGNAL - AV-SW
[SHEET-3/11]

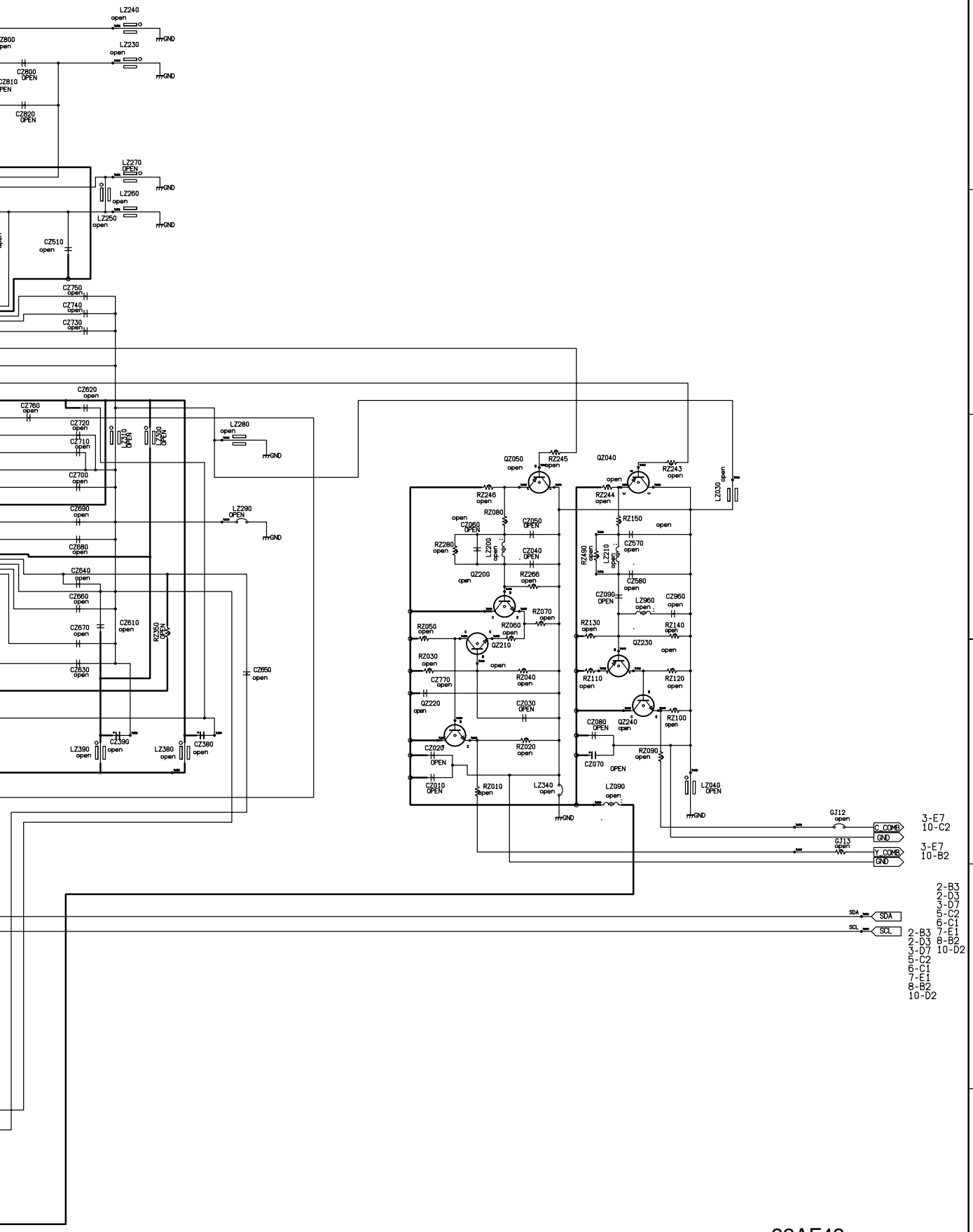

SGV
GND (TUNER)
MPX2
V_TV2
AVSW
OUTTERM_L
OUTTERM_R
VARI_L
VARI_R
L_SP-AMP
R_SP-AMP
MUTE_AC
RV07 10k
RV08 OPEN
QV05 RN1403
V1-S1
V1S
V1C
V1R
V1L
RV02 75
RV04 75
RV05 75
RV12 10k
RV13 OPEN
V2-S1
QV10 RN1403
V3L
V3V
V3R
V2S
V2C
V2R
V2L
V2_SW
UXT1140-0100
PV011
CE_DP0727_21
GRS01 RM73B1HR0000
GRV07 RM73B1HR0000
CV48 open
CV47 open
CS08 open
CS10 open
CS20 open
CS21 open
RS01 open
CS22 open
DV45 OPEN
QV02 open
CS06 10u
CS05 10u
RS19 open
RS20 open
CS07 open
CV49 open
CV46 open
CS23 open
CV45 open
GRV64 open
LV04 OPEN
RV45 OPEN
RV65 open
LV45 open
GRV60 1608_JP
RV60 OPEN
CV60 OPEN
QV60 KTC3198Y
RV61 100
RV62 75
CV61 10V470u
RV63 100
QS60 2SC2712Y KTC3875Y 2SC2412K, Q
RS60 100
QS61 2SC2712Y KTC3875Y 2SC2412K, Q
RS62 100
RS64 1k
CS70 16V22u
QS63 2SC3326-A
RS68 22k
RS61 2.2k
RS65 1k
CS71 16V22u
RS63 2.2k
RS69 22k
QS64 2SC3326-A
QS62 RN2404
RS66 1k
CS72 open
RS67 open
RS70 100k
RS71 100k
RW01 75
RW02 75
RW03 75
PV03
PV02
JACK 3P
JACK 5P
MON_OUT
DVD
DVD-Y
DVD-L
DVD-R
Cb
Cr
QS31
RS38 open
CS32 open
RS36 open
RS37 open
L2_PIP
R2_PIP
QS30 KETSU
RS39 open
QS32 open
RS33 open
PIP_A-MUTE
CS30 open
RS34 open
DS61 open
DS62 open
QS33 open
RS35 open
RS21 open
CS31 open
RS24 open
QS34 open
RS23 open
RS22 KETSU
RS18 KETSU
C-IN
PIP A-out
S602 open
SLIDE SWITCH
ON OFF
9-D7 V2S
9-D7 V2C
9-D7 V2_SW
9-D7 V2R
9-D7 V2L
9-D2
9-D3
9-E3
8-E7
7-A1
7-B1
7-E1



32AF43
SIGNAL - AV-SW
[SHEET-3/11]

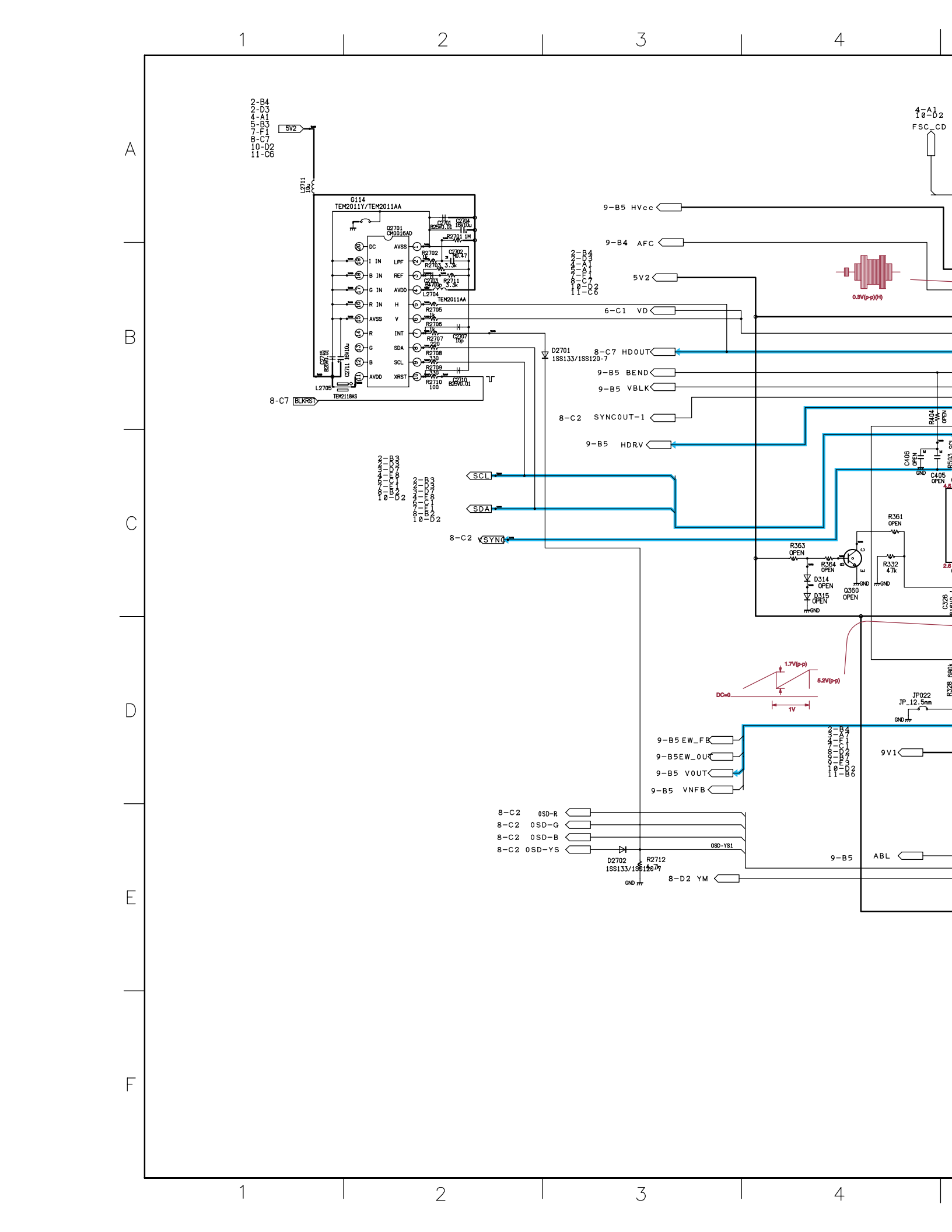

5-A4
10-D2
FSC_CD
GND
GJ10
open
QZ260
KETSU
6-C1
11-D6
GJ01
5V3
GND
CZ980
CZ960
CZ970
LZ330
3.3V_A
2.5V_A
2-B4
2-D3
5-A1
5-B3
7-F1
8-C7
10-D2
11-C6
GJ21
5V2
LZ320
2.5V_B
3.3V_B
2.5V_C
CZ490
CZ500
CZ470
CZ520
CZ460
RZ410
RZ750
RZ740
RZ420
CZ480
RZ430
CZ530
CZ540
CZ510
RZ390
RZ400
CZ450
RZ380
CZ440
RZ370
CZ430
QZ010
CZ750
CZ740
CZ730
CZ620
CZ760
CZ720
CZ710
CZ700
CZ690
CZ680
CZ640
CZ660
CZ670
CZ610
CZ630
CZ650
RZ350
CZ400
CZ420
CZ410
CZ360
CZ370
LZ370
LZ360
LZ350
LZ390
LZ380
RZ360
RZ340
RZ330
LZ340
LZ280
LZ290
LZ270
LZ260
LZ250
LZ240
LZ230
RZ800
CZ800
CZ810
CZ820
LZ800
RZ810
LZ810
CZ840
CZ830
QZ030
GND
VOUT
VDD
NC
CE
3.3V
2.5V
LM090
OPEN
CM350
RZ700
QZ180
RZ730
QZ170
RZ720
RZ690
RZ670
RZ680
RZ660
QZ160
RZ650
RZ640
CZ320
CZ290
CZ330
CZ250
QZ250
RZ830
RZ820
CZ600
RZ600
RZ710
QZ140
RZ210
CZ120
LZ220
CZ140
CZ110
RZ190
CZ130
RZ180
LZ212
CZ100
ZZ110
JZ010
JZ020
QZ060
RZ170
RZ265
RZ160
LZ060
GJ18
LZ020
GJ03
16V100
CZ150
9V1
9V2
V_AV
2-B4
3-A7
5-D4
7-C1
8-D2
9-B7
9-E3
10-D2
11-B6
2-D6
2-E3
11-C6
3-E7
8-E2
10-D2
QZ050
RZ245
RZ246
RZ080
CZ060
CZ050
RZ280
LZ200
CZ040
QZ200
RZ266
RZ070
RZ060
RZ050
QZ210
RZ030
RZ040
CZ770
CZ030
QZ220
CZ020
RZ010
LZ340
LZ090
QZ040
RZ243
RZ244
LZ030
RZ150
RZ489
LZ210
CZ570
CZ580
CZ090
CZ960
LZ960
RZ130
RZ140
QZ230
RZ110
RZ120
CZ080
QZ240
RZ100
RZ090
CZ070
LZ040
GJ12
C_COMB
GJ13
Y_COMB
3-E7
10-C2
3-E7
10-B2
SDA
SCL
2-B3
2-D3
3-D7
5-C2
6-C1
7-E1
8-B2
10-D2
2-B3 7-E1
2-D3 8-B2
3-D7 10-D2
5-C2
6-C1
7-E1
8-B2
10-D2
32AF43
SIGNAL - 3D_YCS
[SHEET-4/11]

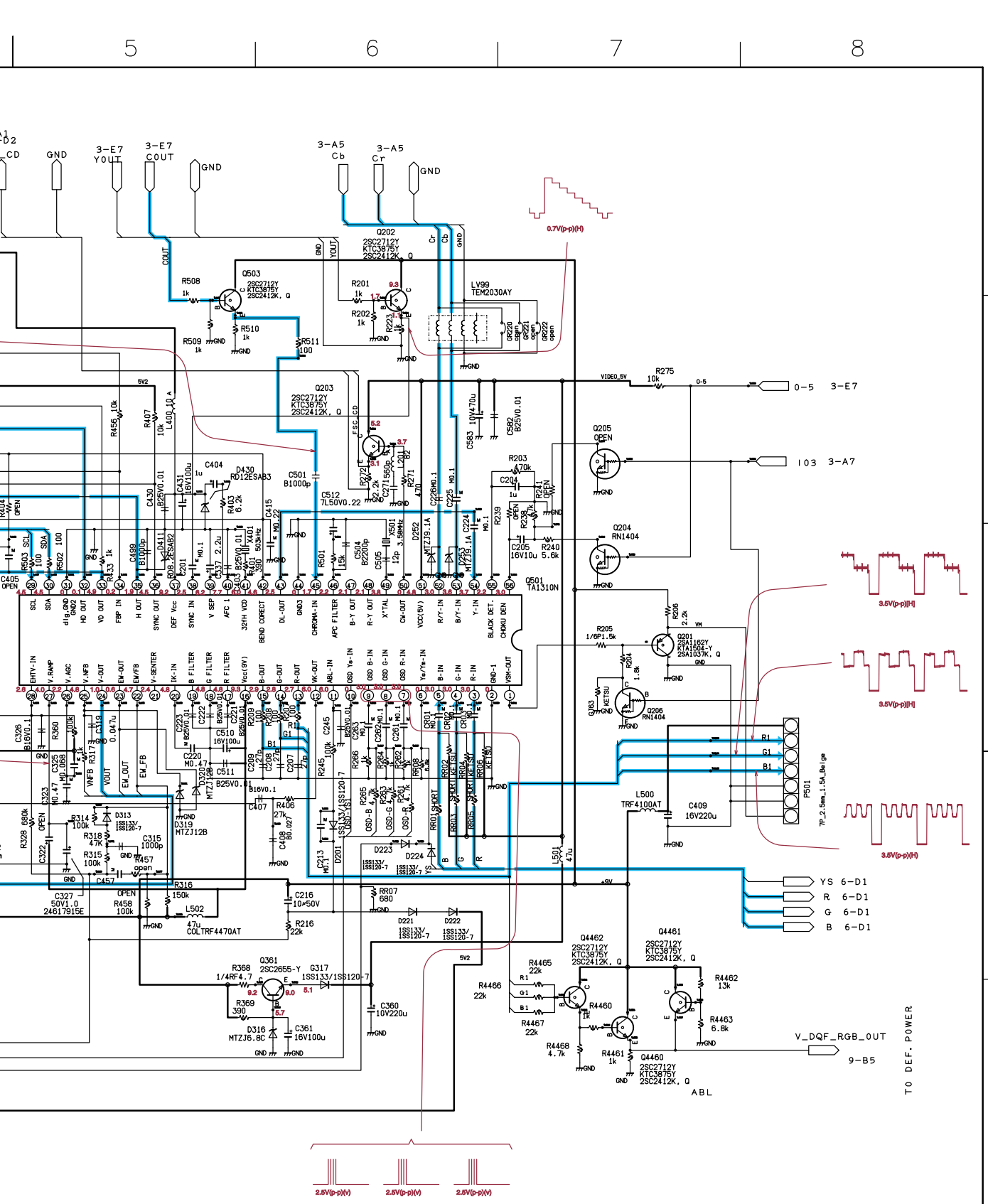

1
2
3
4
A
B
C
D
E
F
FSC_CD
GND
5V3
5V2
9V1
9V2
V_AV
KETSU
QZ260
QZ010
QZ030
QZ060
QZ140
QZ160
QZ170
QZ180
QZ250
3.3V_A
2.5V_A
3.3V_B
2.5V_B
2.5V_C
2.5V
3.3V
16V100
CZ150
LZ330
LZ320
LZ370
LZ360
LZ350
LZ810
LM090
LZ220
LZ212
LZ110
LZ020
LZ050
RZ800
RZ810
RZ730
RZ720
RZ690
RZ670
RZ680
RZ660
RZ650
RZ640
RZ630
RZ820
RZ600
RZ710
RZ210
RZ190
RZ180
RZ170
RZ160
RZ265
RZ390
RZ400
RZ420
RZ410
RZ750
RZ740
RZ430
RZ380
RZ370
RZ340
RZ330
CZ490
CZ500
CZ470
CZ460
CZ520
CZ480
CZ530
CZ540
CZ450
CZ440
CZ430
CZ420
CZ410
CZ400
CZ370
CZ360
CZ840
CZ830
CZ810
CZ800
CZ250
CZ600
CZ120
CZ140
CZ130
CZ110
CZ100
CZ320
CZ290
CZ330
CZ980
CZ990
CZ970
GJ10
GJ01
GJ21
GJ03
GJ18
CM350
RZ700
VOUT
VDD
NC
CE
GND
OPEN
open



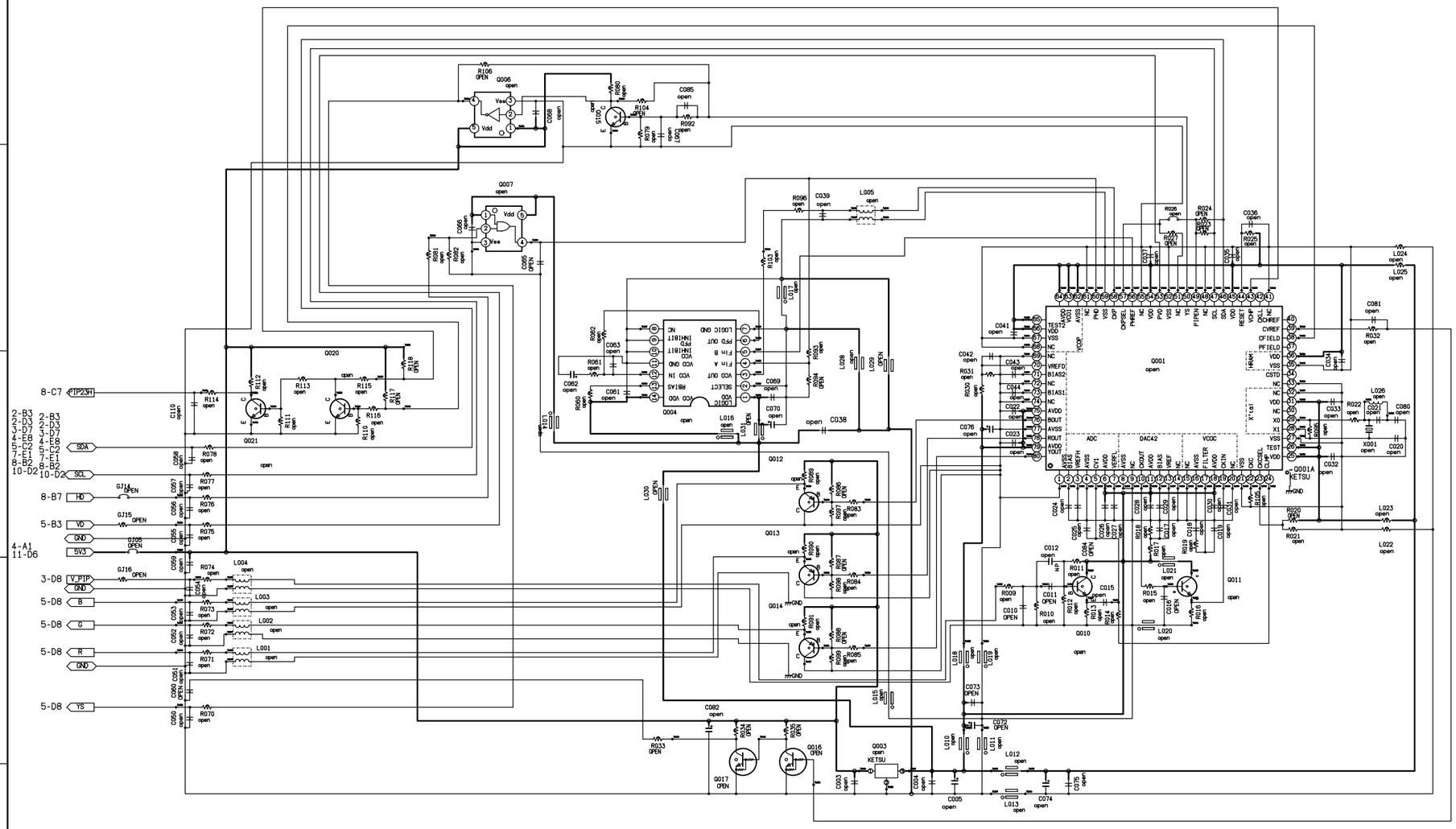
32AF43
SIGNAL - 3D_YCS
[SHEET-4/11]

32AF43
SIGNAL - VCD
[SHEET-5/11]

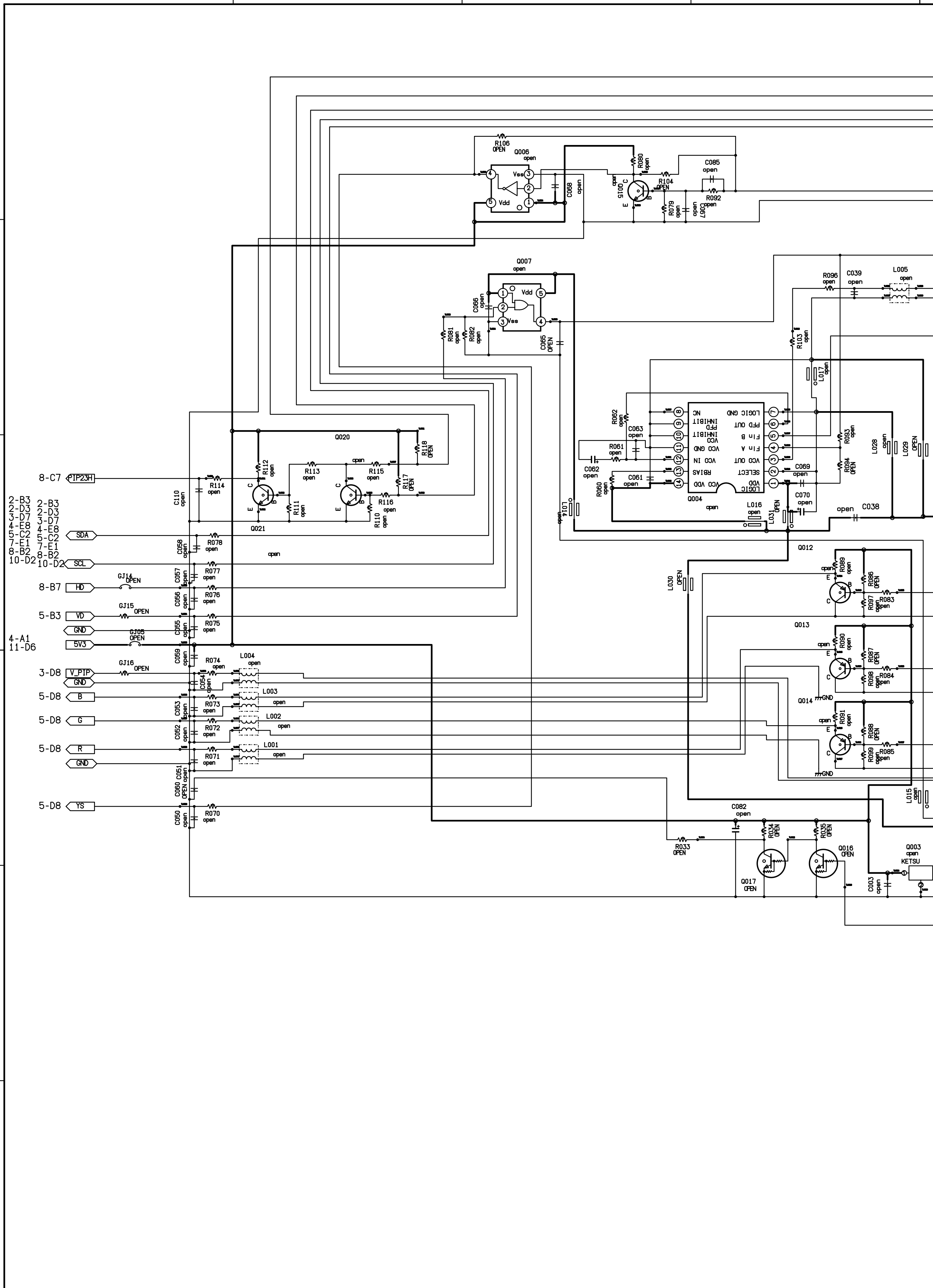

5V2
G114
TEM2011Y/TEM2011AA
Q2701
CM0016AD
DC
I IN
B IN
G IN
R IN
AVSS
R
G
B
AVDD
AVSS
AVDD
H
V
INT
SDA
SCL
XRST
LPF
REF
AVDD
TEM2011AA
L2704
L2705
TEM2118AS
BLKRST
9-B5 HVcc
9-B4 AFC
5V2
6-C1 VD
8-C7 HDOUT
9-B5 BEND
9-B5 VBLK
8-C2 SYNCOUT-1
9-B5 HDRV
D2701
1SS133/1SS120-7
SCL
SDA
8-C2 SYNC
FSC_CD
0.3V(p-p)(H)
1.7V(p-p)
5.2V(p-p)
DC=0
1V
9-B5 EW_FB
9-B5EW_OUT
9-B5 VOUT
9-B5 VNFB
9V1
JP022
JP_12.5mm
GND
8-C2 OSD-R
8-C2 OSD-G
8-C2 OSD-B
8-C2 OSD-YS
OSD-YS1
D2702
1SS133/1SS120-7
R2712
8-D2 YM
9-B5 ABL
R361
OPEN
R363
OPEN
R364
OPEN
R332
4.7k
D314
OPEN
D315
OPEN
Q360
OPEN
C406
OPEN
C405
OPEN
R404
OPEN



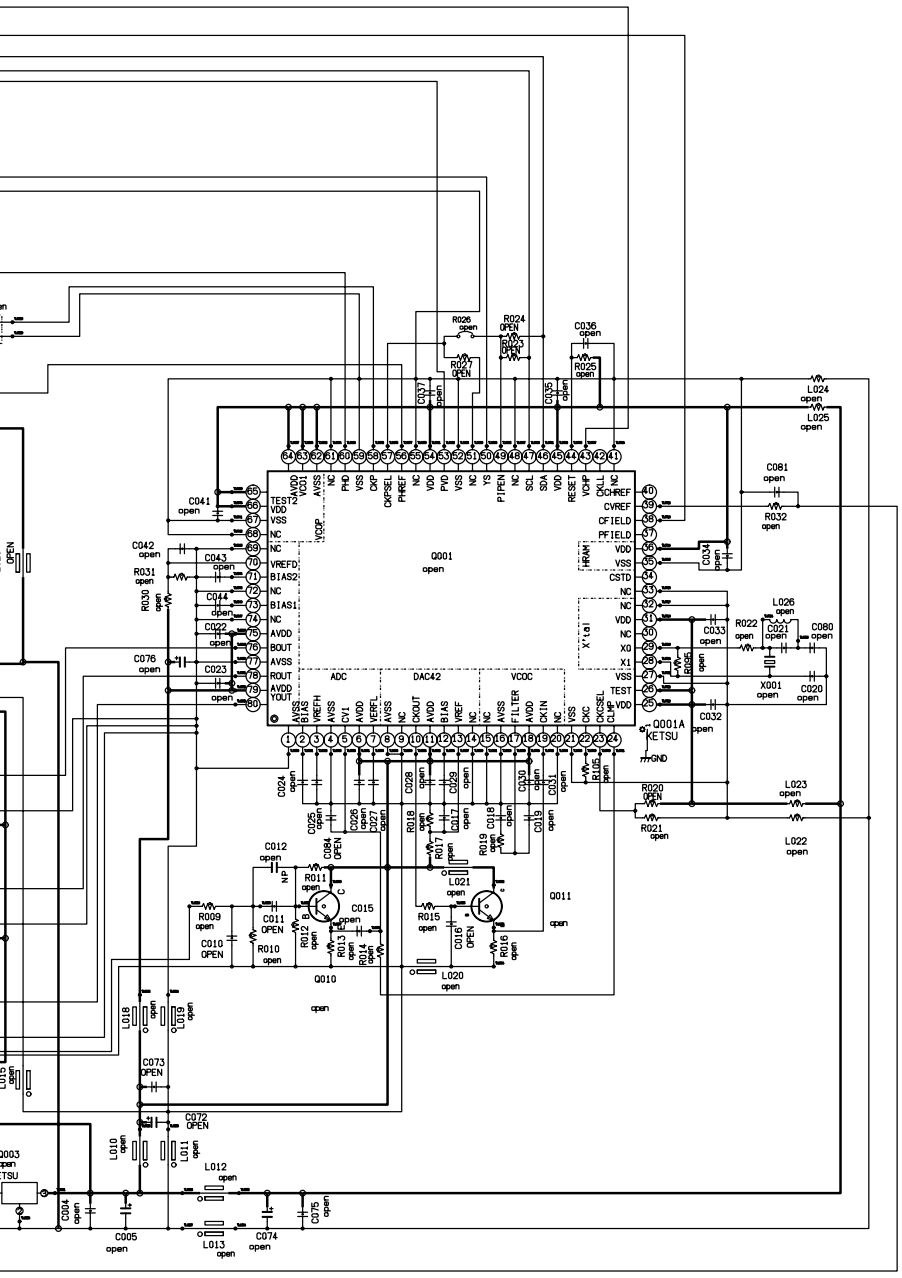
32AF43
SIGNAL - VCD
[SHEET-5/11]



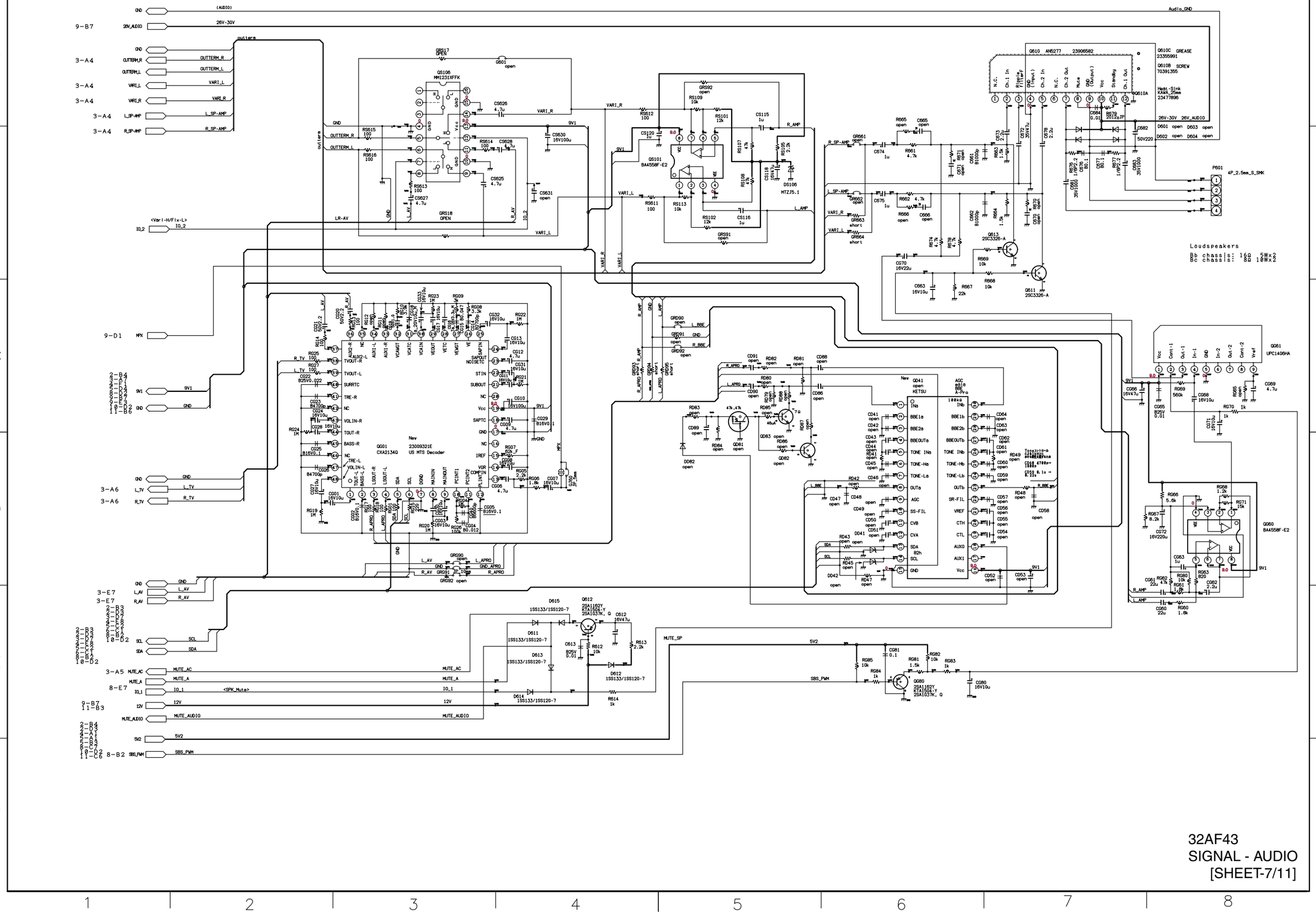
32AF43
SIGNAL - PIP
[SHEET-6/11]

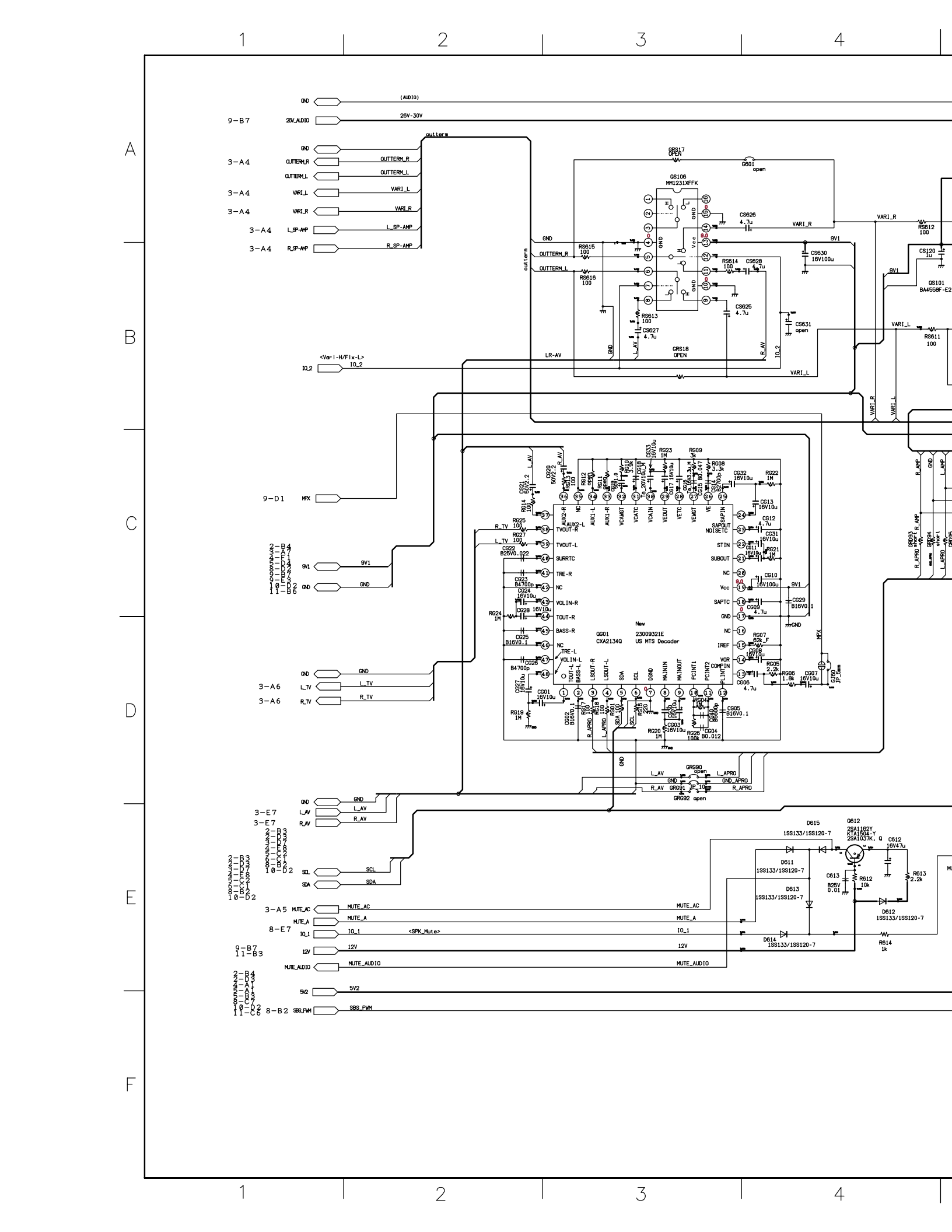


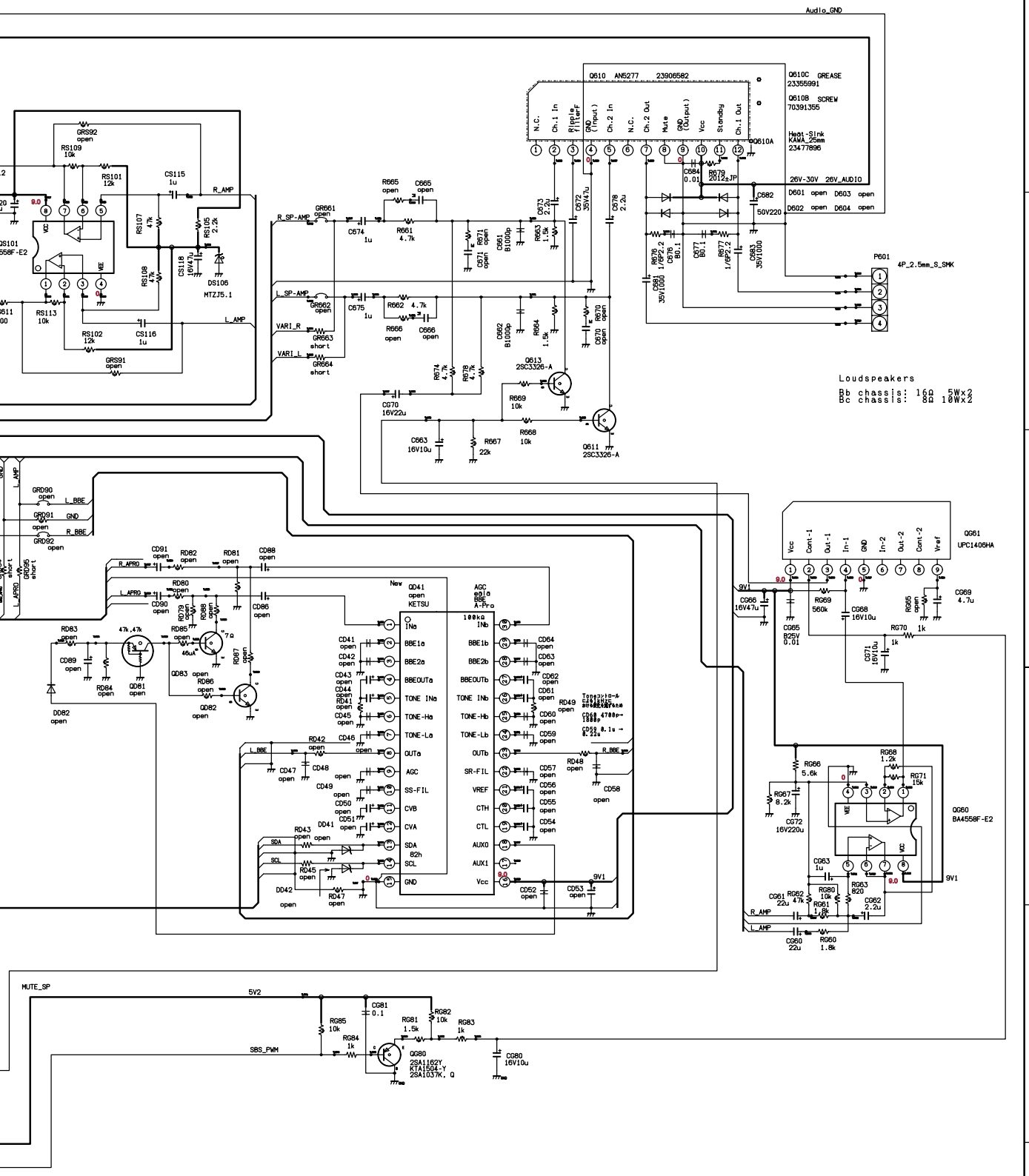
8-C7 PIP23H
2-B3 2-D3 3-D7 4-E8 5-C2 7-E1 8-B2 10-D2
SDA
SCL
8-B7 HD
5-B3 VD
GND
4-A1 11-D6 5V3
3-D8 V_PIP
GND
5-D8 B
5-D8 G
5-D8 R
GND
5-D8 YS
Q006
Q007
Q020
Q021
Q004
Q012
Q013
Q014
Q016
Q017
Q003 KETSU
LOGIC GND
PFD OUT
F in B
F in A
VCO OUT
SELECT
LOGIC VDD
NC
INHIBIT
VCO GND
VCO IN
RBIAS
VCO VDD



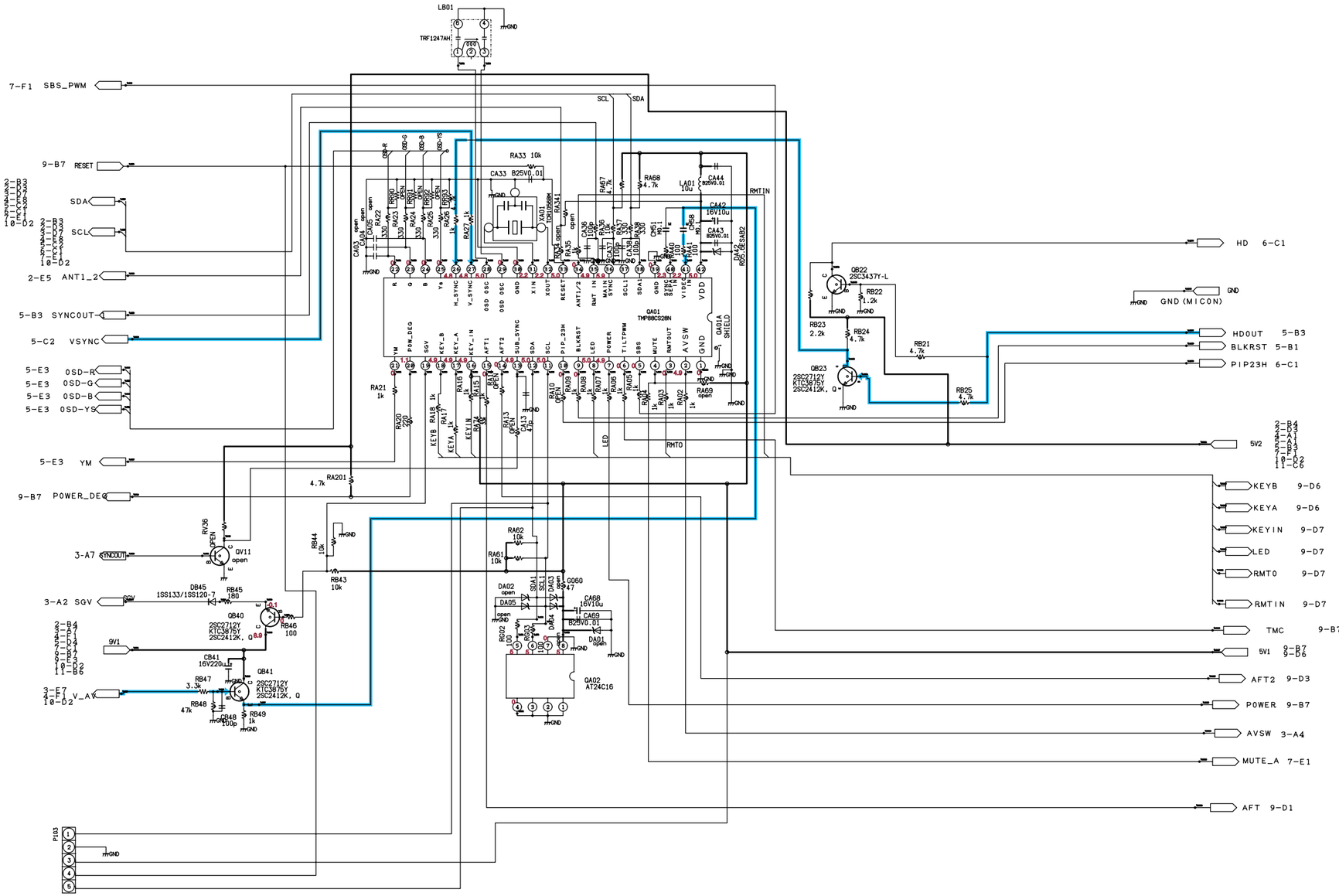
32AF43
SIGNAL - PIP
[SHEET-6/11]


Audio_GND
Loudspeakers
pp chassis: 16Ω 5Wx2
pc chassis: 8Ω 10Wx2
Q610 AN5277 23906582
Q610C GREASE 23355991
Q610B SCREW 70391355
Heat-Sink KAMA_25mm 23477896
Q610A
26V-30V 26V_AUDIO
D601 open D603 open
D602 open D604 open
P601 4P_2.5mm_S_SMK
Q601 UPC1406HA
Q611 2SC3326-A
Q613 2SC3326-A
Q610 N.C. Ch.1 In Ripple Filter GND (Output) Ch.2 In N.C. Ch.2 Out Mute GND (Output) Vcc Standby Ch.1 Out
Q601 Vcc Cont-1 Out-1 In-1 GND In-2 Out-2 Cont-2 Vref
Q601 Vcc Cont-1 Out-1 In-1 GND In-2 Out-2 Cont-2 Vref
Q601 UPC1406HA
Q601 UPC1406HA
Q601 UPC1406HA

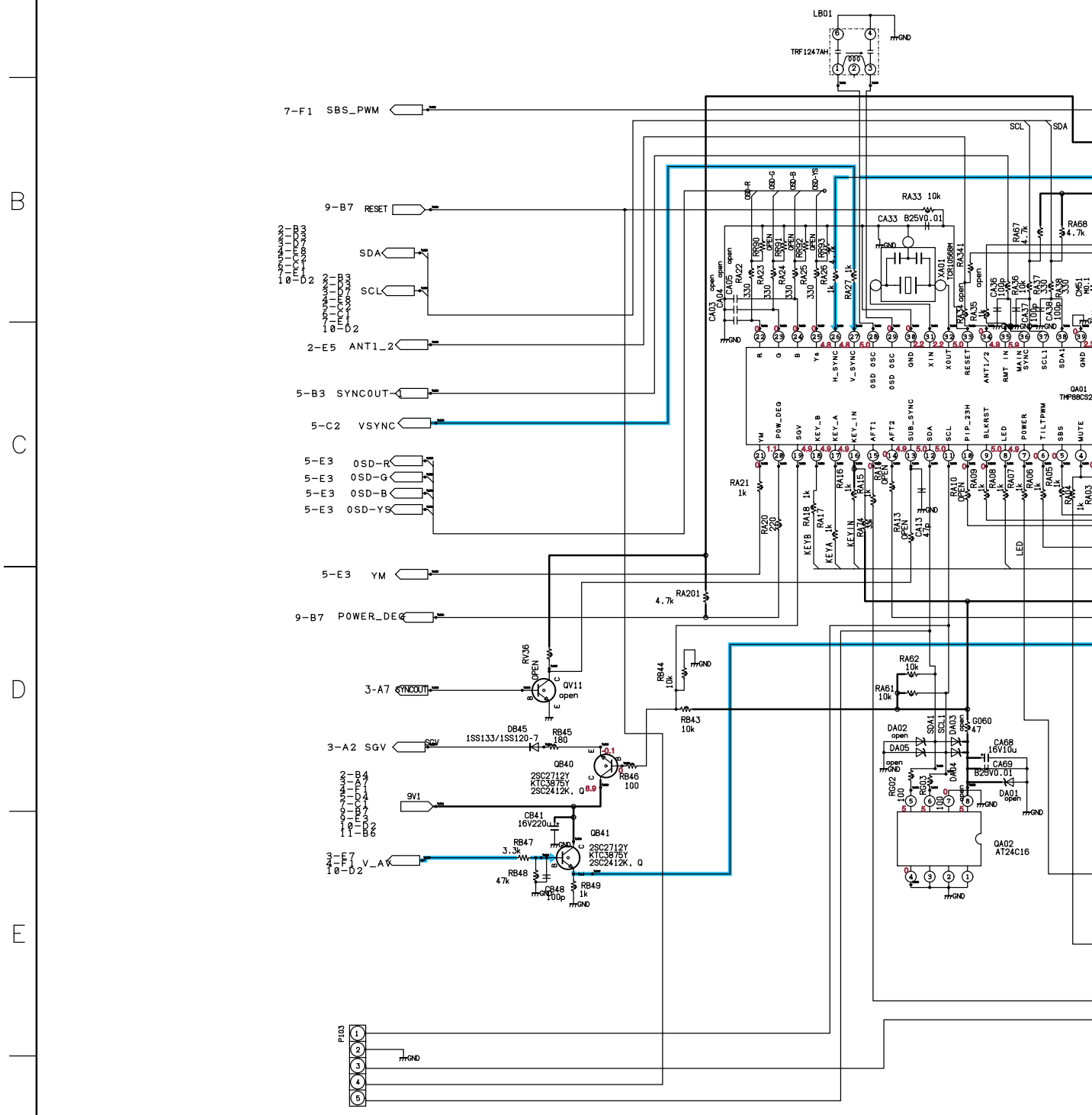

(AUDIO)
26V-30V
25V_AUDIO
outterm
OUTTERM_R
OUTTERM_L
VARI_L
VARI_R
L_SP-AMP
R_SP-AMP
QS106
MM1231XFFK
QS101
BA4558F-E2
GRS18
OPEN
LR-AV
IO_2
MPX
9V1
GND
L_TV
R_TV
SCL
SDA
QG01
CXA2134Q
23009321E
US MTS Decoder
MUTE_AC
MUTE_A
IO_1
<SPK_Mute>
12V
MUTE_AUDIO
5V2
SBS_PWM
D611
D612
D613
D614
D615
1SS133/1SS120-7
Q612
2SA1162Y
KTA1504,Y
2SA1037K, Q

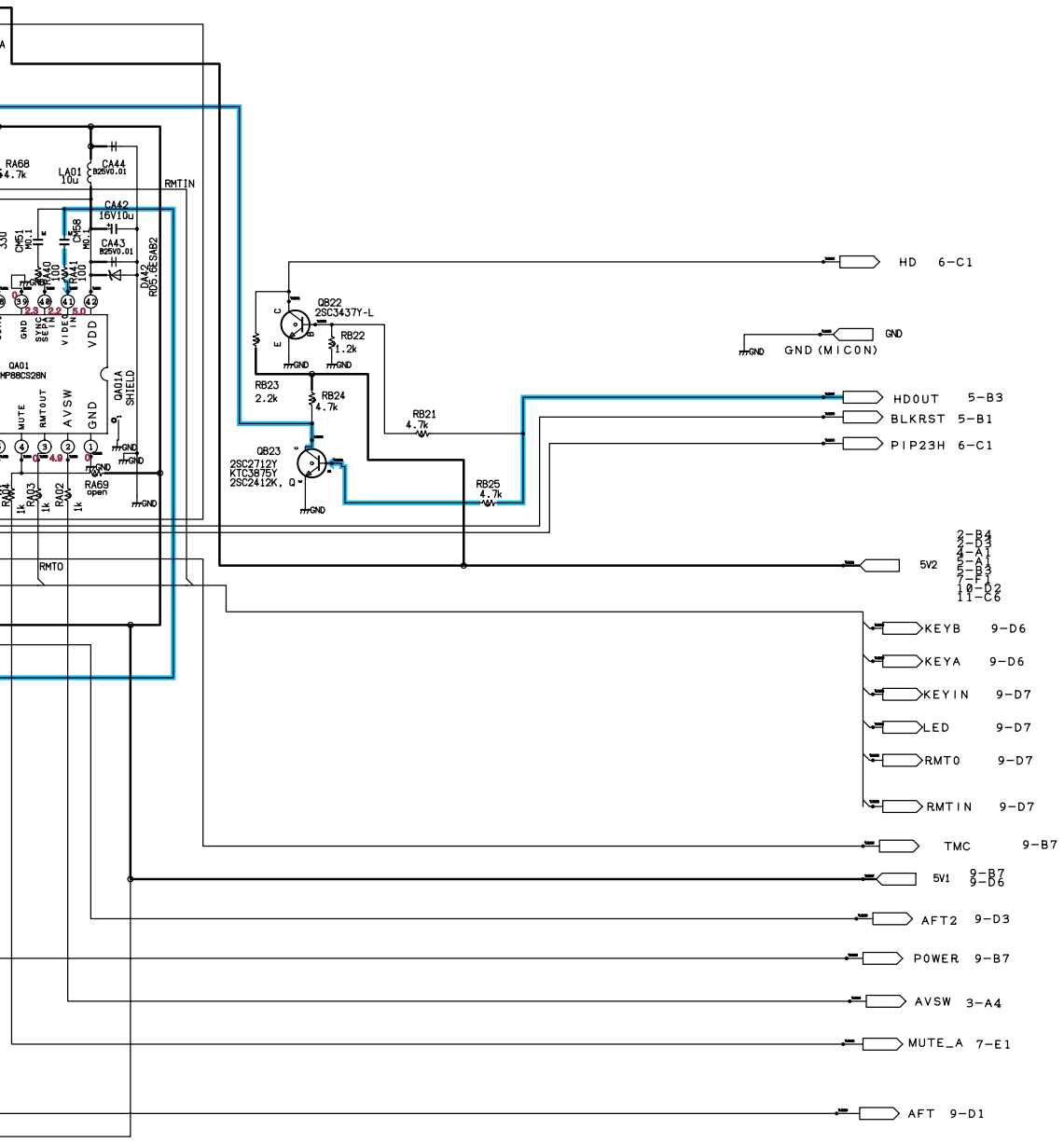


32AF43
SIGNAL - AUDIO
[SHEET-7/11]



32AF43
SIGNAL - MICON
[SHEET-8/11]


LB01
TRF1247AH
7-F1 SBS_PWM
9-B7 RESET
SDA
SCL
2-E5 ANT1_2
5-B3 SYNCOUT
5-C2 VSYNC
5-E3 OSD-R
5-E3 OSD-G
5-E3 OSD-B
5-E3 OSD-YS
5-E3 YM
9-B7 POWER_DEG
3-A7 SYNCOUT
3-A2 SGV
9V1
3-E7 V_A
10-D2
RA33 10k
CA33 B25V0.01
XA01
QA01 TMP88CS2
QA02 AT24C16
QV11 open
RV36 OPEN
DB45 1SS133/1SS120-7
QB40 2SC2712Y KTC3875Y 2SC2412K, Q
QB41 2SC2712Y KTC3875Y 2SC2412K, Q
RA21 1k
RA201 4.7k
RB44 10k
RB43 10k
RA62 10k
RA61 10k
RB45 180
RB46 100
CB41 16V220u
RB47 3.3k
RB48 47k
CB48 100p
RB49 1k
CA68 16V10u
CA69 B25V0.01
P103



32AF43
SIGNAL - MICON
[SHEET-8/11]

To:POWER-DEF

SOCKET B-B 6P 2.5
BB04A

GND
32V
2-B4
2-B3

To:POWER-DEF

BB02A
BB 16P BLUG

GND
VNFB 5-D3
VOUT 5-D3
ABL 5-E4
BEND 5-B3
EW_OUT
EW_FB 5-D3
HVcc 5-A3
V_DAF_RGB_OUT 5-E8
VBLK 5-B3
AFC 5-B3
ABL_SW 3-D7
HDRV 5-C3

To:POWER-DEF

BB01A
BB 16P BLUG

26V_AUDIO 7-A1
GND
TMC 8-D7
GND
5V1
GND
POWER 8-E7
POWER_DEG 8-D2
RESET 8-B2
9V1
GND
12V 7-E1

To:Main IF UNIT

PA01A
TAC-L CONNECTOR

GND
IF 2-A4
9V1_1 2-A5
MPX 7-C1
AFT 8-E7
AGC 2-A5
V_TV 3-A6

To:Sub IF Unit
(use 32AFX63, 36AFX63)

PA11A
KETSU

GND
IF2 2-D4
9V2_1 2-D4
MPX2 3-A3
AFT2 8-E7
AGC2 2-D5
V_TV2 3-A4

To:ANT SW

9V1
ANTSW 2-D6

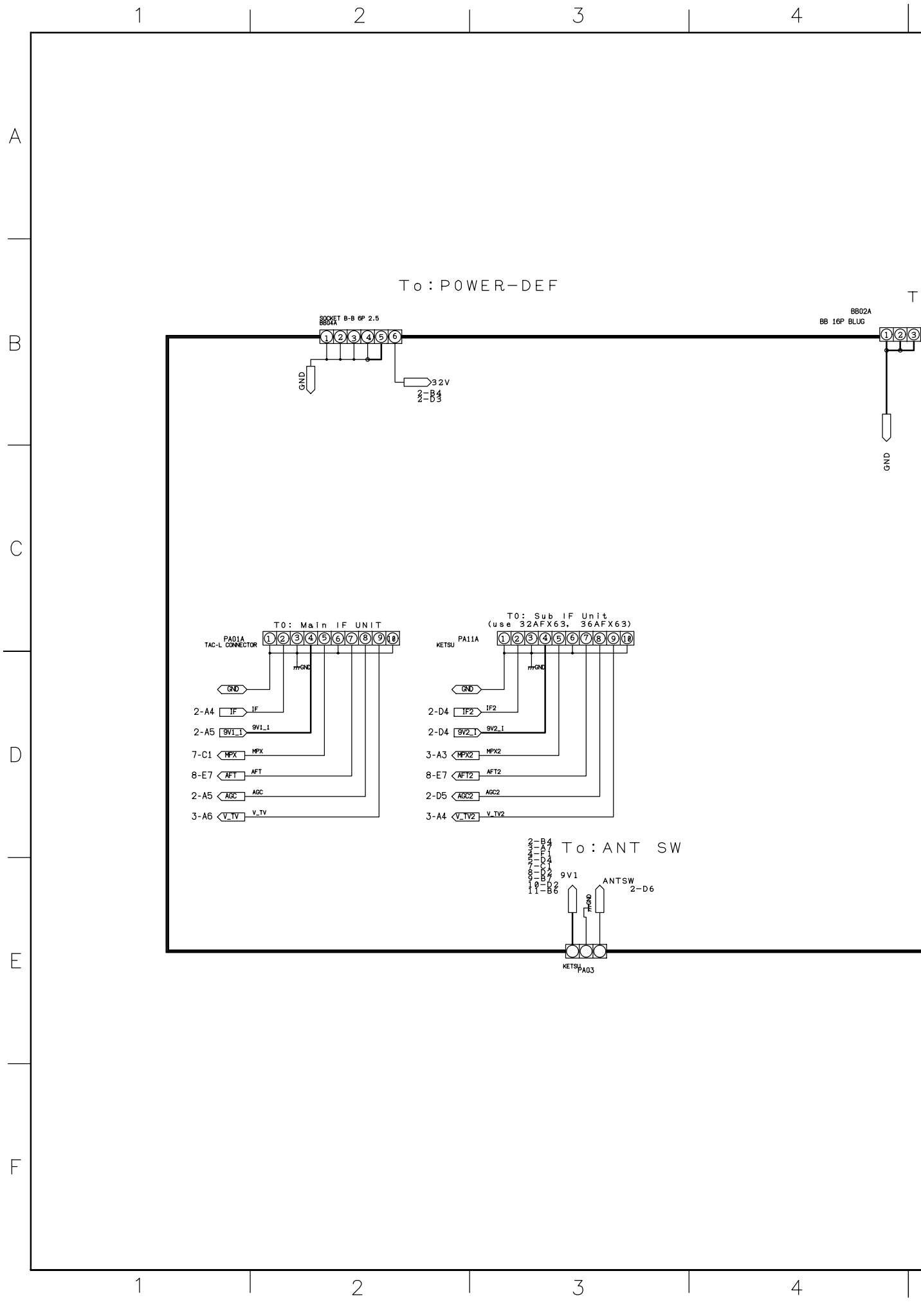
KETSU PA03

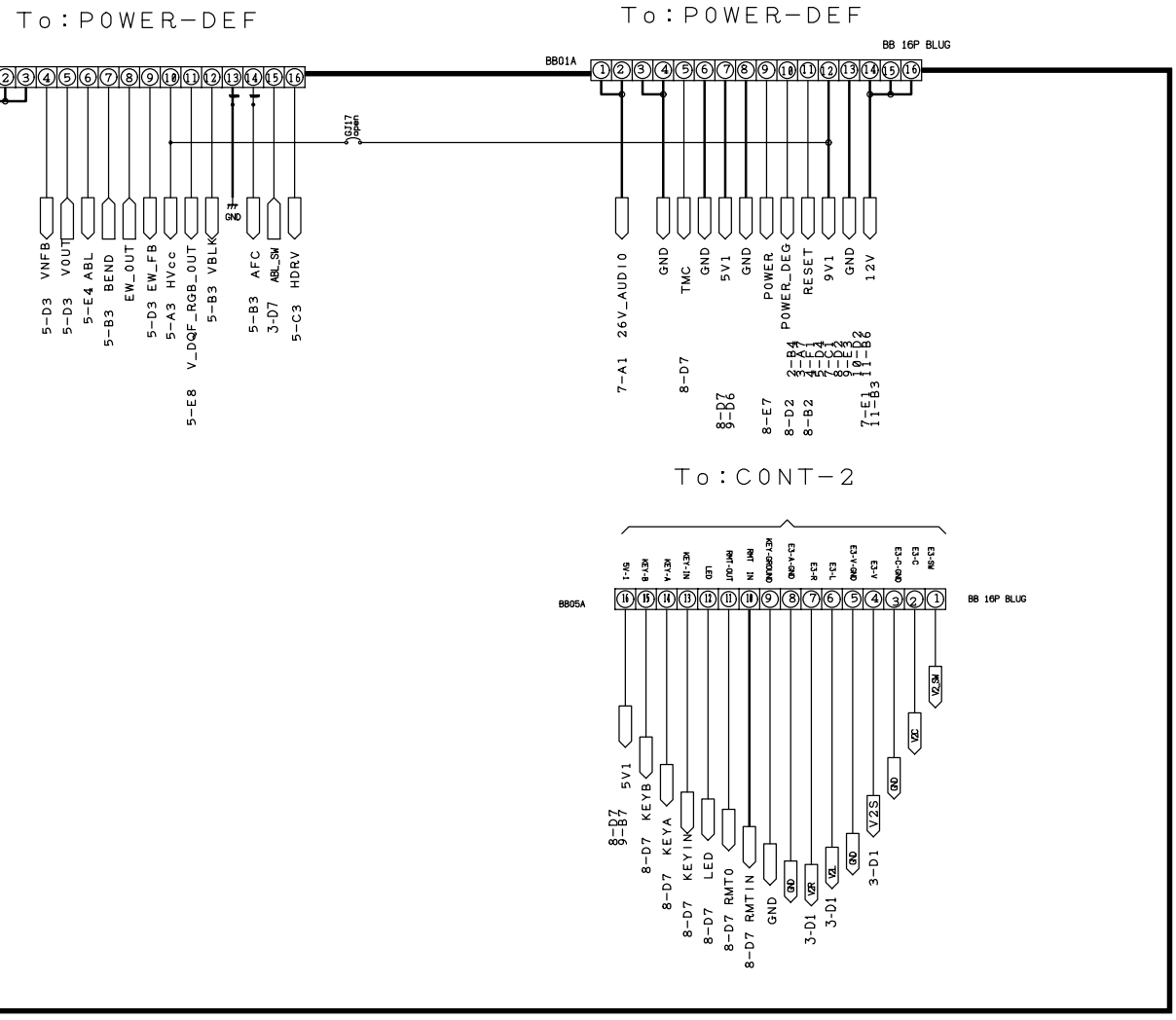
To:CONT-2

BB05A
BB 16P BLUG

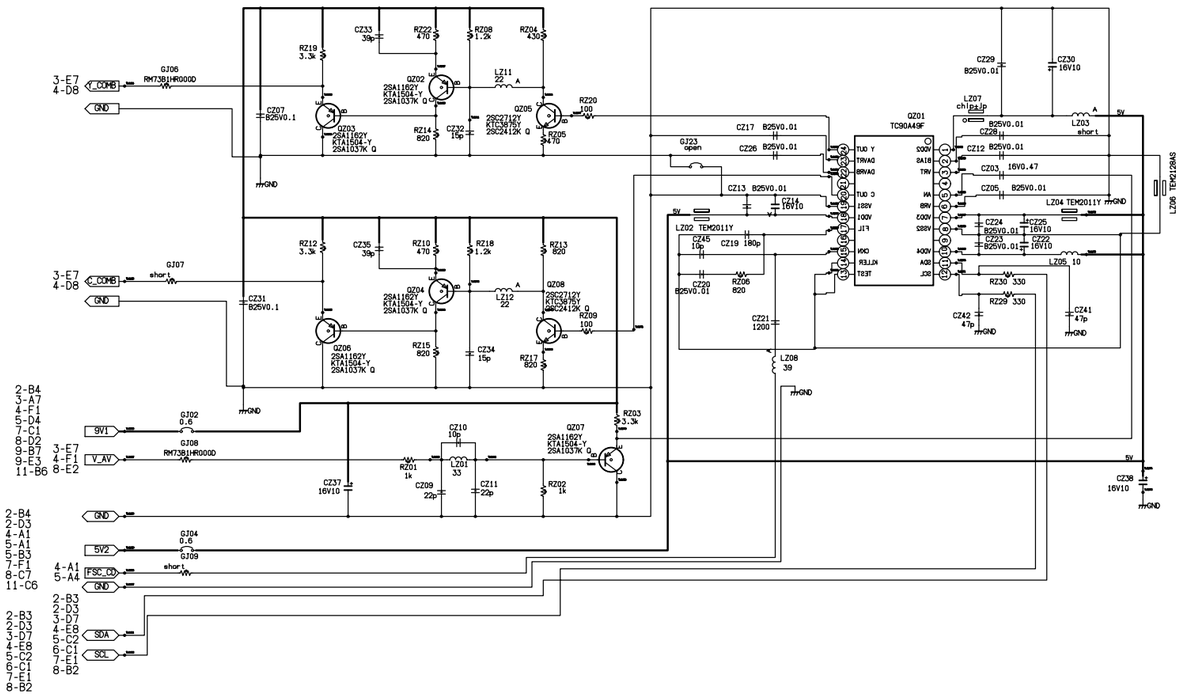
5V1 8-D7
KEYB 8-D7
KEYA 8-D7
KEYIN 8-D7
LED 8-D7
RMT0 8-D7
RMTIN 8-D7
GND
GND
VOL 3-D1
VOL 3-D1
GND
V2.5 3-D1
GND
VCC
VCC
V2.5V

32AF43
SIGNAL - BANKAN
[SHEET-9/11]

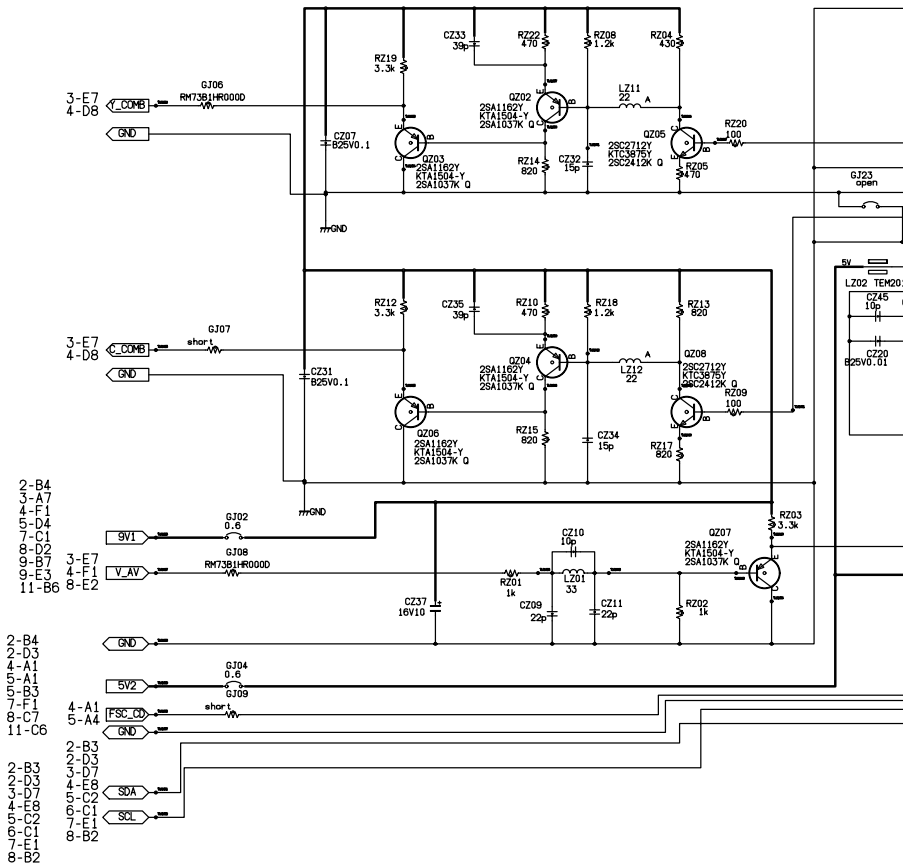

To : POWER-DEF
SOCKET B-B 6P 2.5
BB04A
GND
32V
2-B4
2-D3
BB02A
BB 16P BLUG
GND
T0: Main IF UNIT
PA01A
TAC-L CONNECTOR
GND
2-A4 IF
2-A5 9V1_1
7-C1 MPX
8-E7 AFT
2-A5 AGC
3-A6 V_TV
T0: Sub IF Unit
(use 32AFX63, 36AFX63)
PA11A
KETSU
GND
2-D4 IF2
2-D4 9V2_I
3-A3 MPX2
8-E7 AFT2
2-D5 AGC2
3-A4 V_TV2
To : ANT SW
2-B4
3-A7
4-F1
5-D4
7-C1
8-D2
9-B7
10-D2
11-B6
9V1
ANTSW
2-D6
GND
KETSU PA03

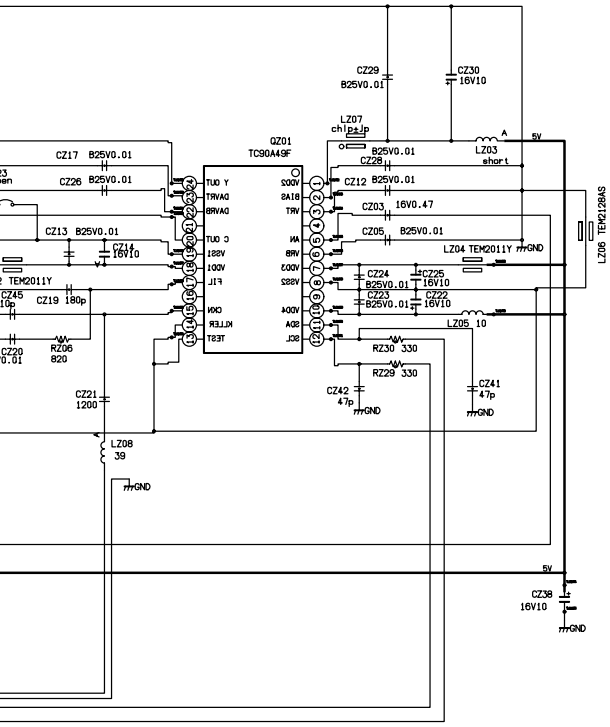


32AF43
SIGNAL - BANKAN
[SHEET-9/11]

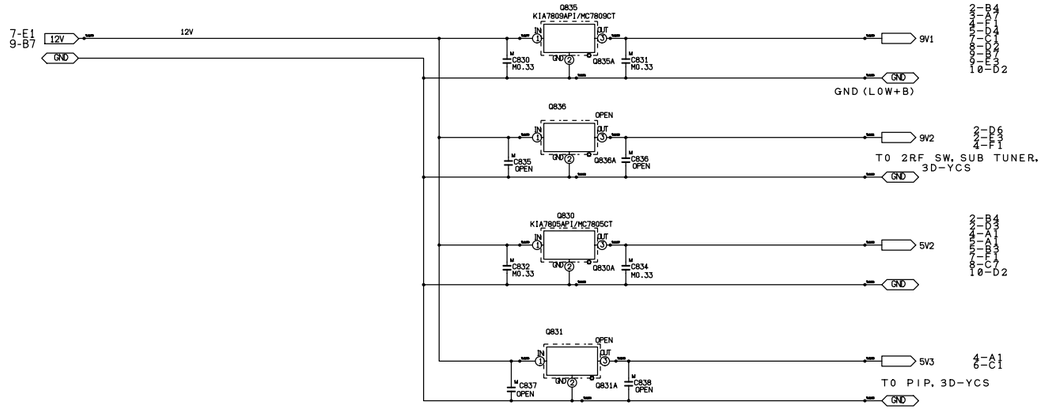


32AF43
SIGNAL - 3L_COMB
[SHEET-10/11]

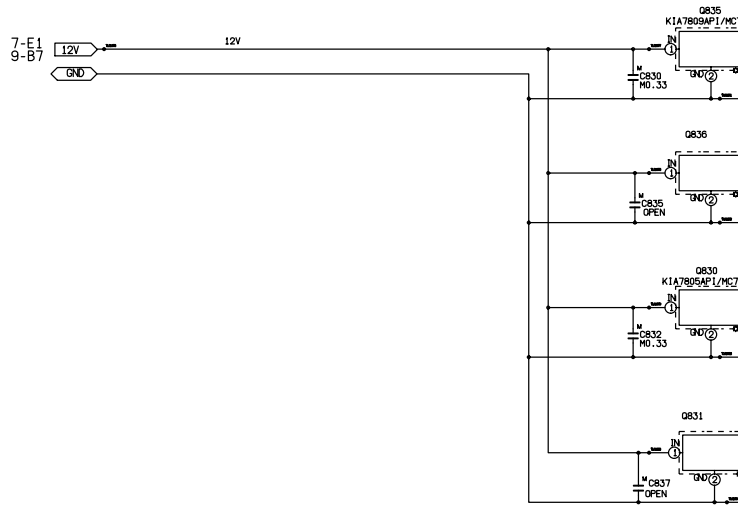

Y_COMB
C_COMB
V_AV
9V1
5V2
FSC_CO
SDA
SCL
GND
GJ06
GJ07
GJ08
GJ02
GJ04
GJ09
GJ23
short
open
RM73B1HR000D
0.6
QZ02
QZ03
QZ04
QZ05
QZ06
QZ07
QZ08
2SA1162Y
KTA1504-Y
2SA1037K Q
2SC2712Y
KTC3875Y
2SC2412K Q
LZ11
LZ12
LZ01
LZ02 TEM20
CZ07
CZ31
CZ33
CZ35
CZ37
CZ32
CZ34
CZ09
CZ10
CZ11
CZ45
CZ20
B25V0.1
16V10
RZ19
RZ12
RZ22
RZ10
RZ08
RZ18
RZ04
RZ13
RZ20
RZ09
RZ14
RZ15
RZ05
RZ17
RZ03
RZ01
RZ02
3.3k
470
1.2k
430
820
100
1k
33
22
39p
15p
10p
22p
16V10
5V

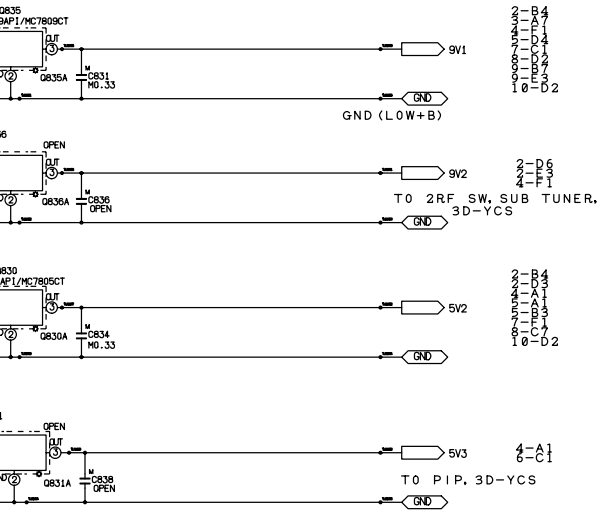


32AF43
SIGNAL - 3L_COMB
[SHEET-10/11]

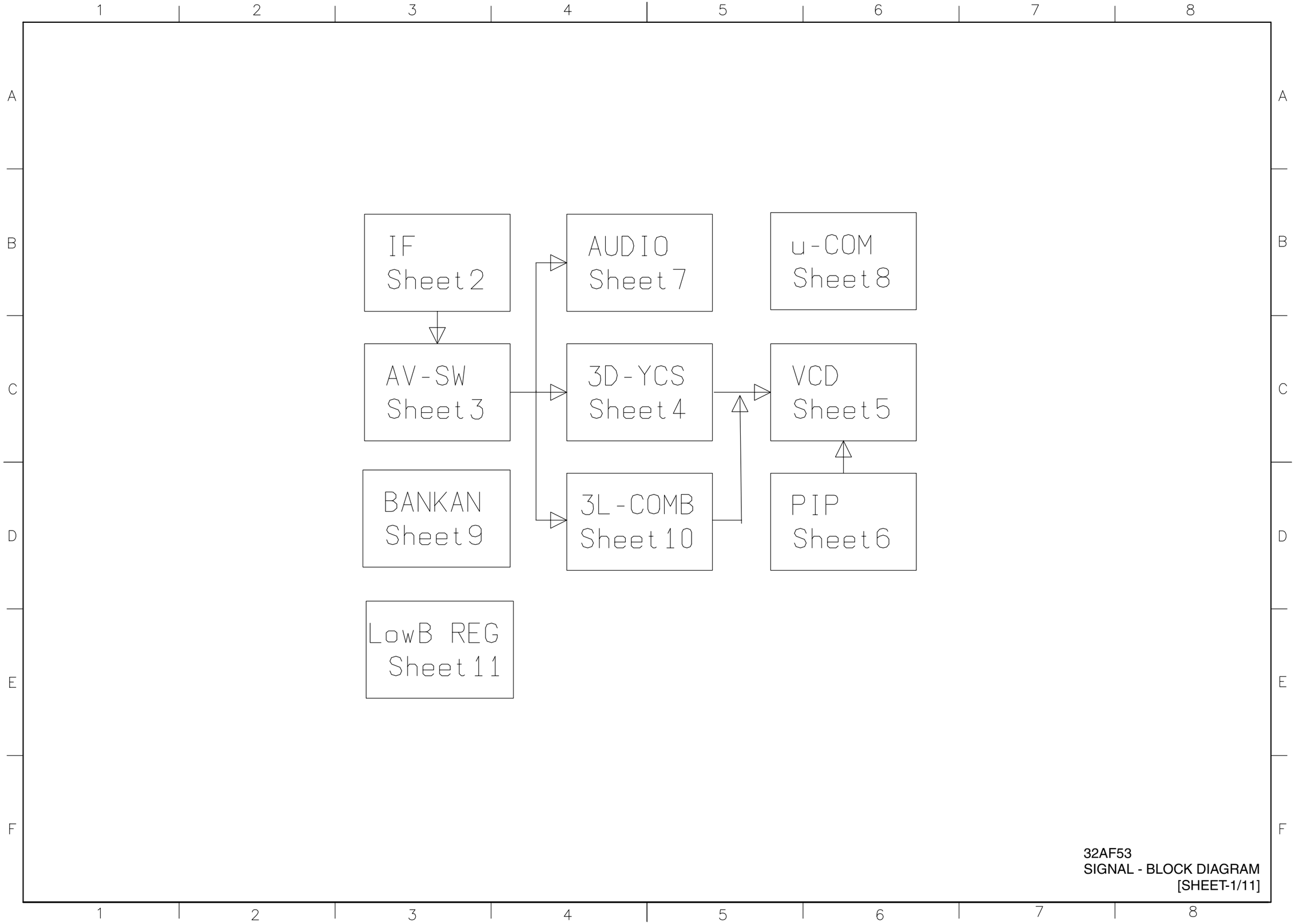


32AF43
SIGNAL - LowB REG.
[SHEET-11/11]

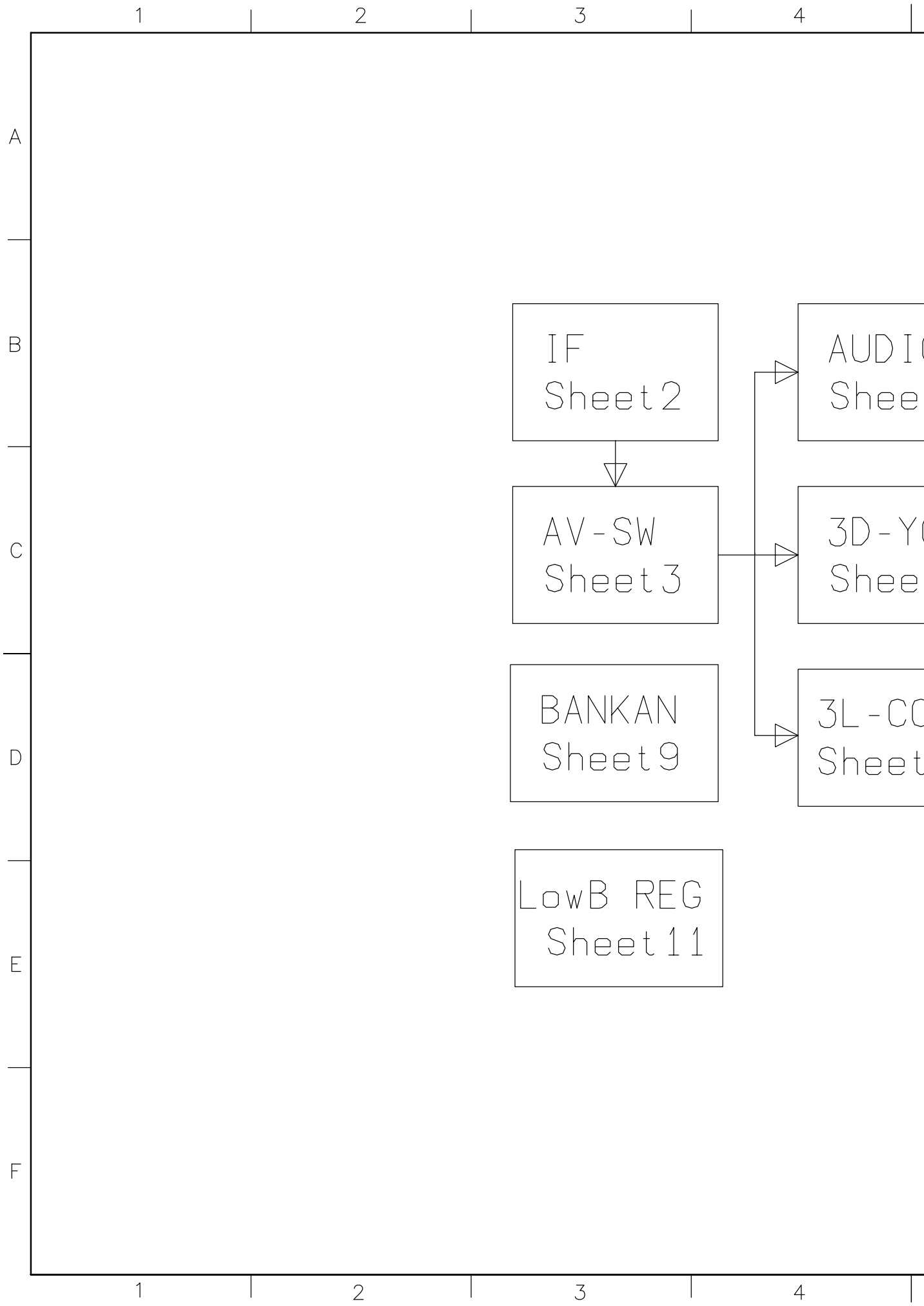

7-E1
9-B7
12V
GND
12V
Q835
KIA7809API/MC
IN
GND
C830
M0.33
Q836
C835
OPEN
Q830
KIA7805API/MC7
C832
M0.33
Q831
C837
OPEN

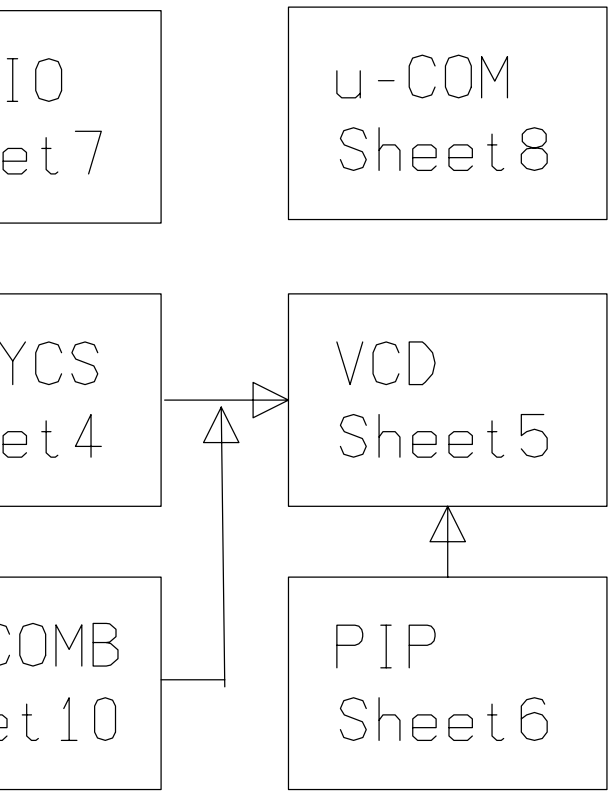


32AF43
SIGNAL - LowB REG.
[SHEET-11/11]

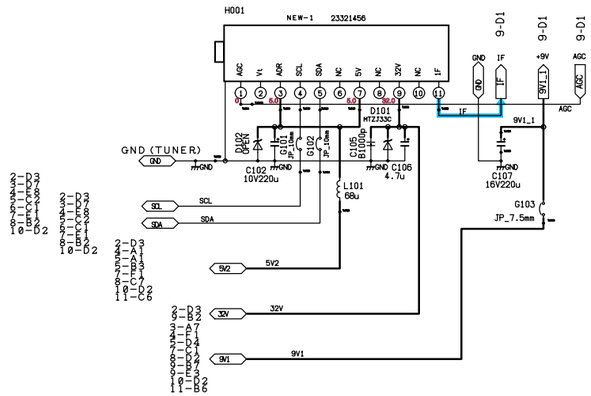


32AF53
SIGNAL - BLOCK DIAGRAM
[SHEET-1/11]

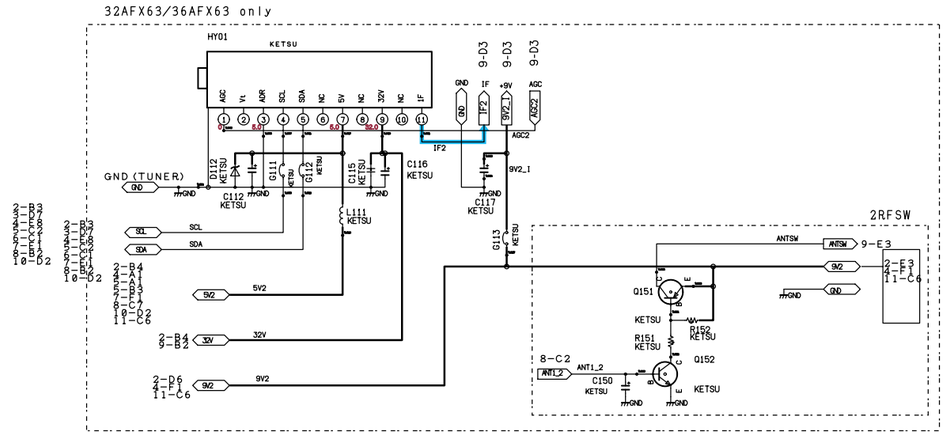

1
2
3
4
A
B
C
D
E
F
IF
Sheet2
AV-SW
Sheet3
BANKAN
Sheet9
LowB REG
Sheet11
AUDI
Shee
3D-Y
Shee
3L-C
Sheet



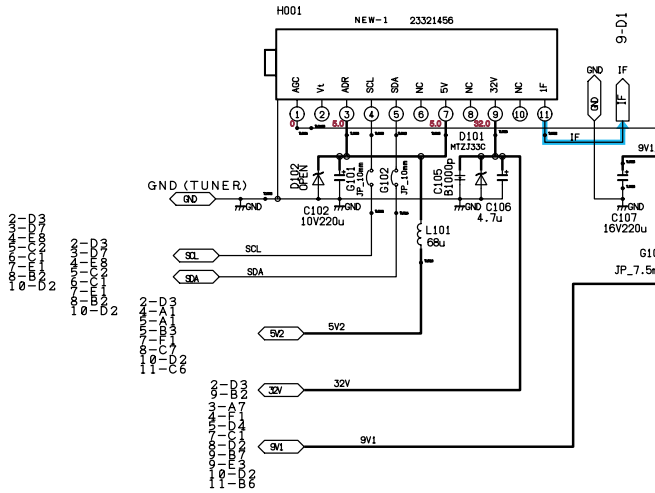
32AF53
SIGNAL - BLOCK DIAGRAM
[SHEET-1/11]



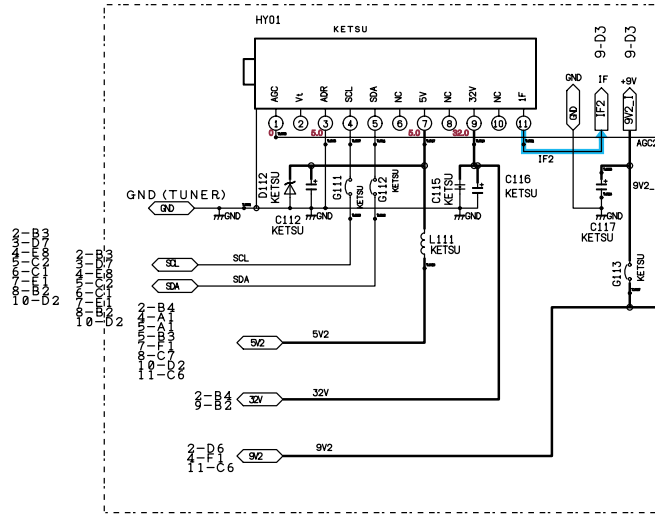
32AFX63/36AFX63 only

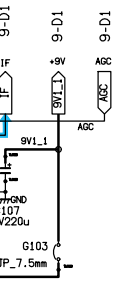


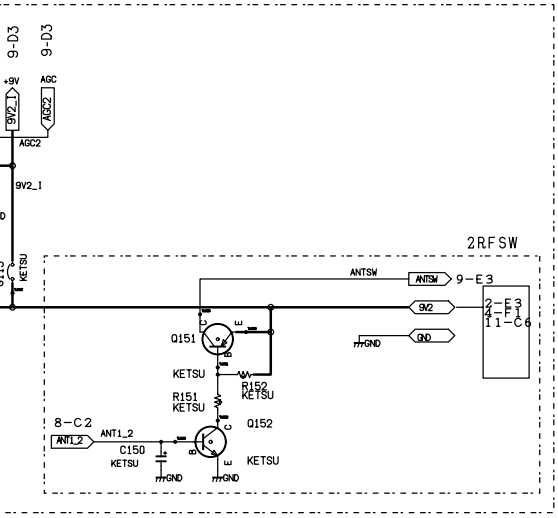
32AF53
SIGNAL - IF
[SHEET-2/11]



32AFX63/36AFX63 only







A

B

C

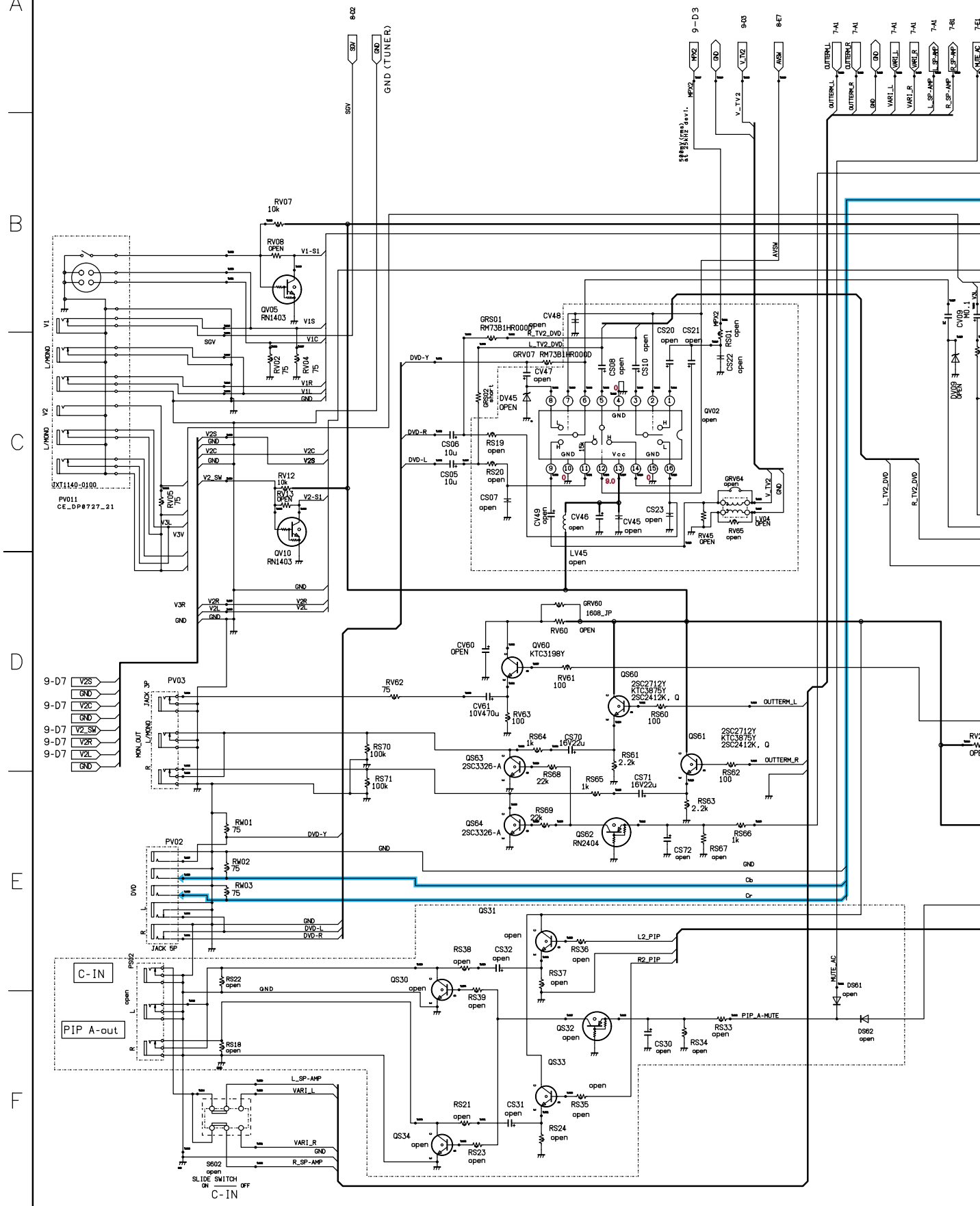
D

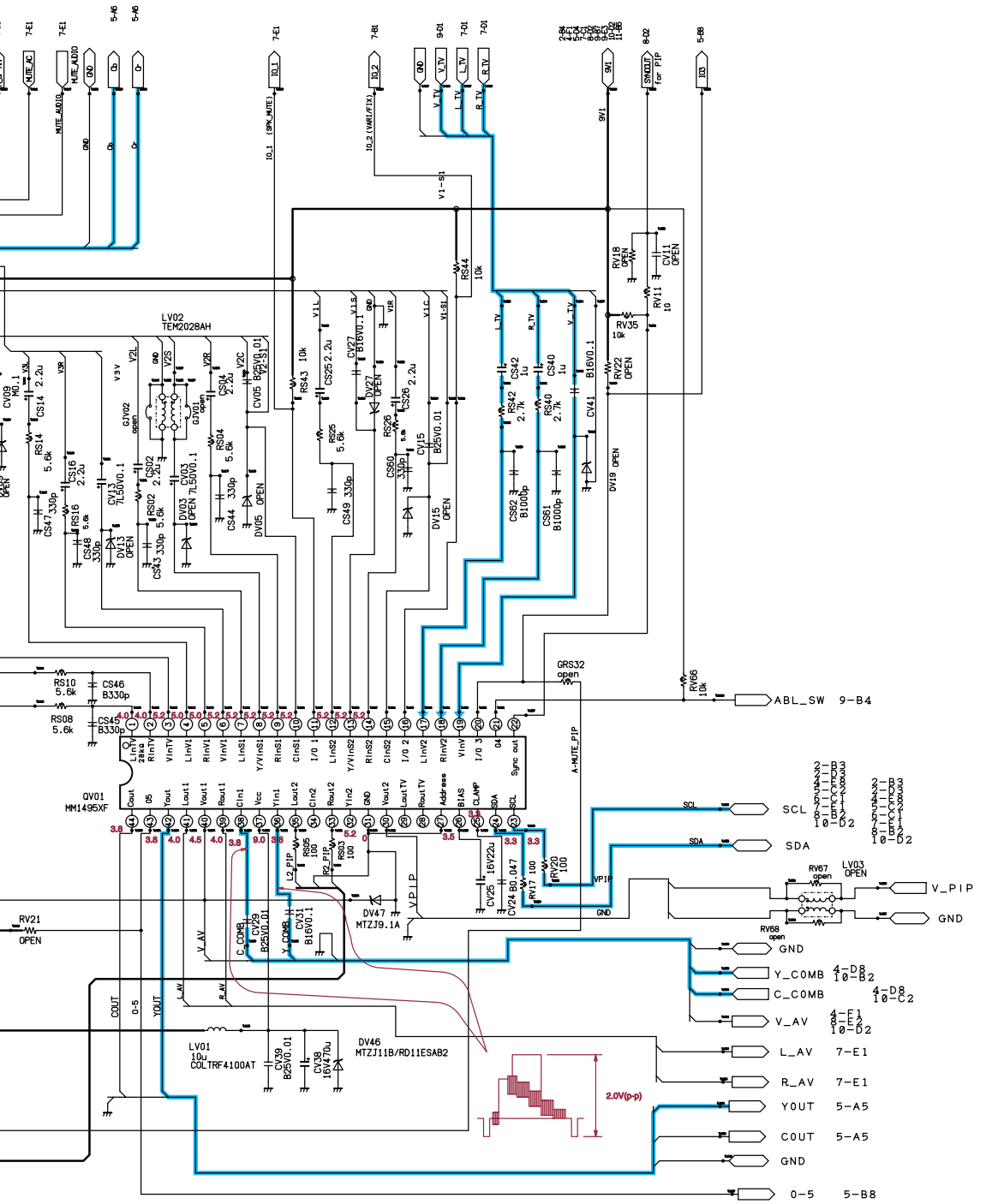
E

F

32AF53
SIGNAL - IF
[SHEET-2/11]

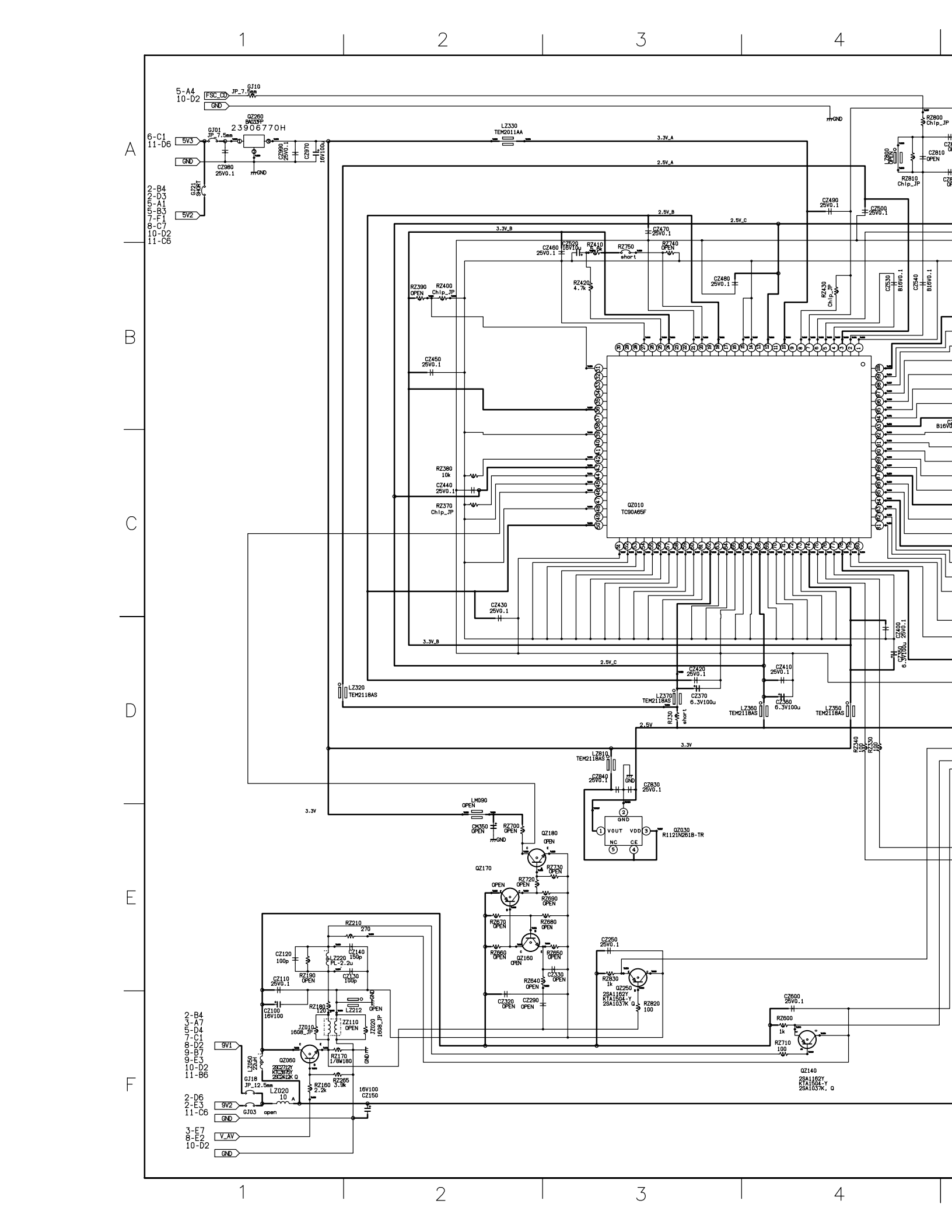
32AF53
SIGNAL - AV-SW
[SHEET-3/11]

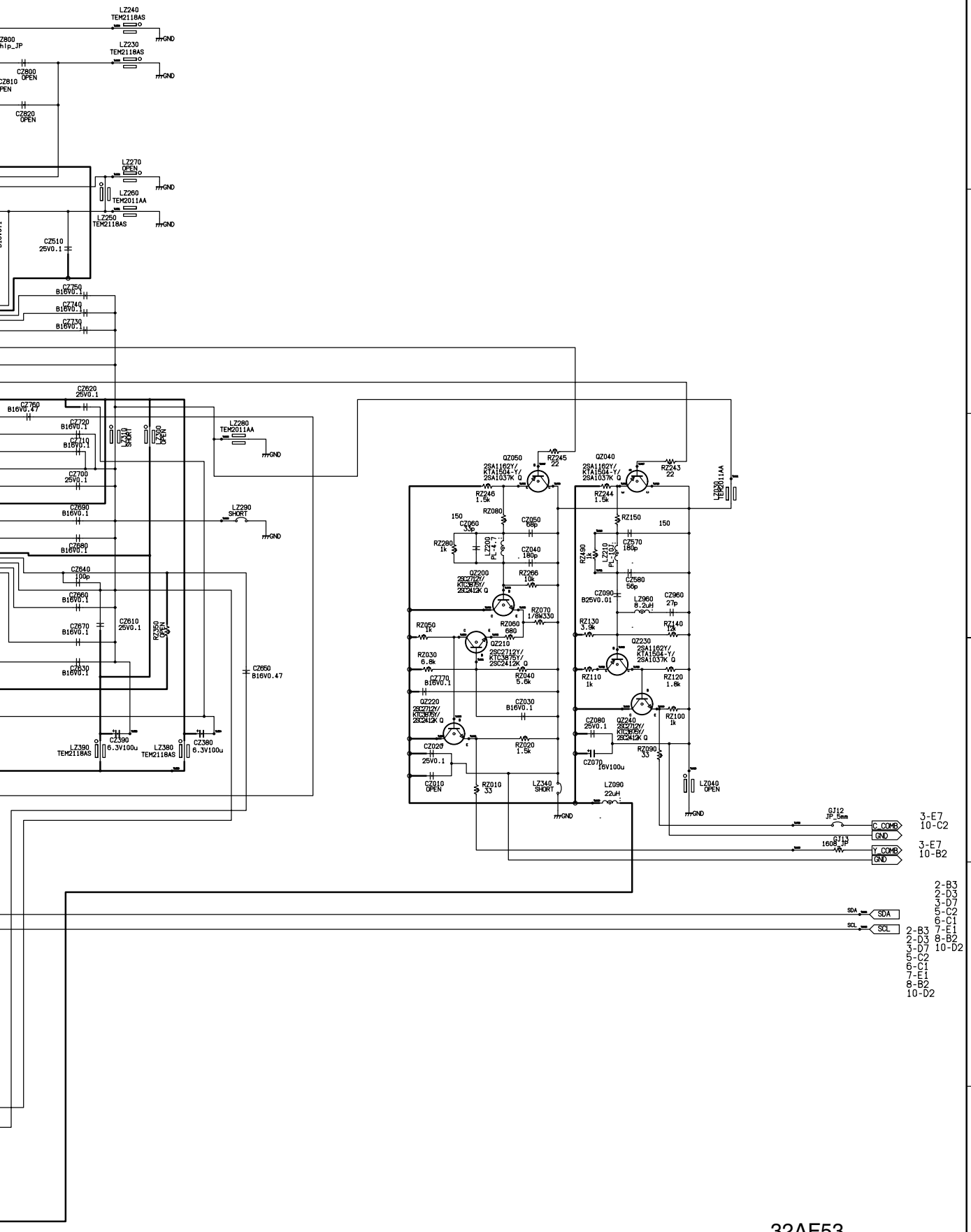

SGV
GND (TUNER)
MPX2
V_TV2
AVSW
OUTTERM_L
OUTTERM_R
VARI_L
VARI_R
L_SP-AMP
R_SP-AMP
MUTE_AC
RV07 10k
RV08 OPEN
QV05 RN1403
RV12 10k
QV10 RN1403
PV011 CE_DP0727_21
UXT1140-0100
GRS01 RM73B1HR0000
GRV07 RM73B1HR0000
QV02 open
GRV60 1608_JP
RV60 OPEN
QV60 KTC3198Y
QS60 2SC2712Y KTC3875Y 2SC2412K, Q
QS61 2SC2712Y KTC3875Y 2SC2412K, Q
QS63 2SC3326-A
QS64 2SC3326-A
QS62 RN2404
PV03
PV02
JACK 3P
JACK 5P
MON_OUT
DVD
C-IN
PIP A-out
QS31
QS30
QS32
QS33
QS34
S602 open SLIDE SWITCH ON OFF
C-IN
L2_PIP
R2_PIP
PIP_A-MUTE
DS61 open
DS62 open
Cb
Cr
DVD-Y
DVD-L
DVD-R
L_TV2_DVD
R_TV2_DVD



32AF53
SIGNAL - AV-SW
[SHEET-3/11]

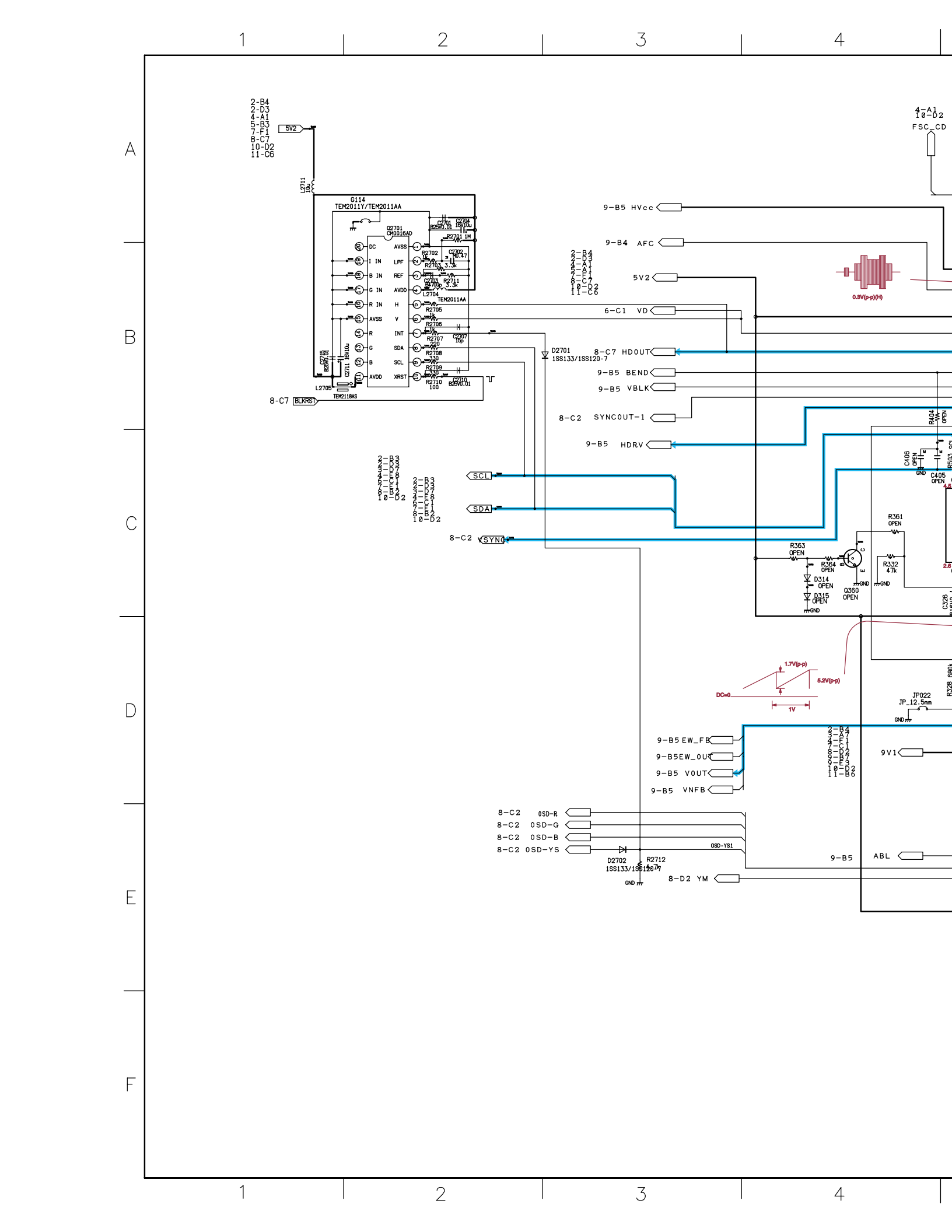
32AF53
SIGNAL - 3D_YCS
[SHEET-4/11]

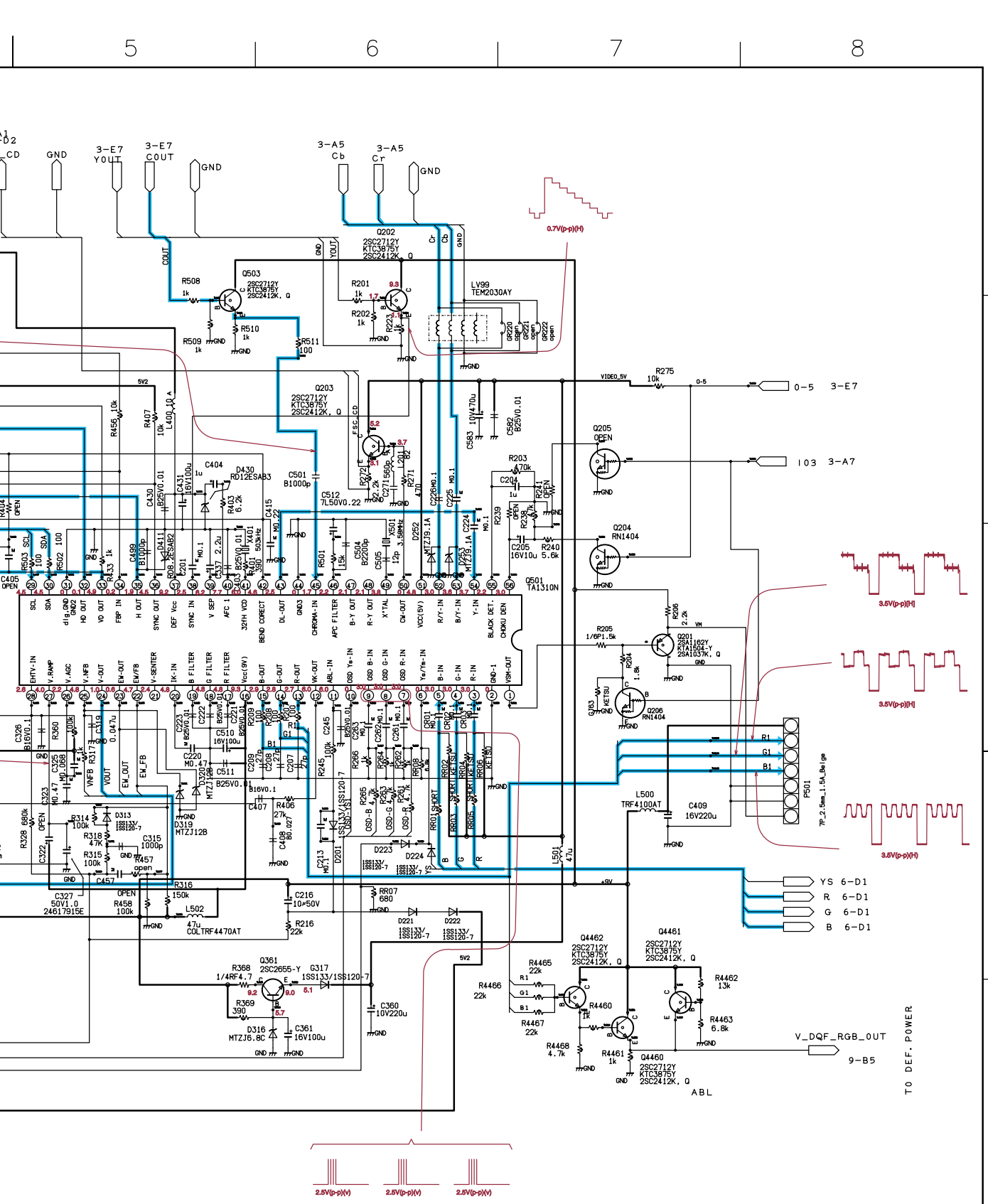

FSC_CD
GND
5V3
5V2
9V1
9V2
V_AV
QZ260
23906770H
QZ010
TC90A65F
QZ030
R1121N261B-TR
QZ060
QZ140
QZ160
QZ170
QZ180
QZ250
2SA1162Y
KTA1504-Y
2SA1037K Q
LZ330
TEM2011AA
LZ320
TEM2118AS
LZ370
LZ360
LZ350
LZ810
LZ020
10 A
3.3V_A
2.5V_A
3.3V_B
2.5V_B
2.5V_C
3.3V
2.5V



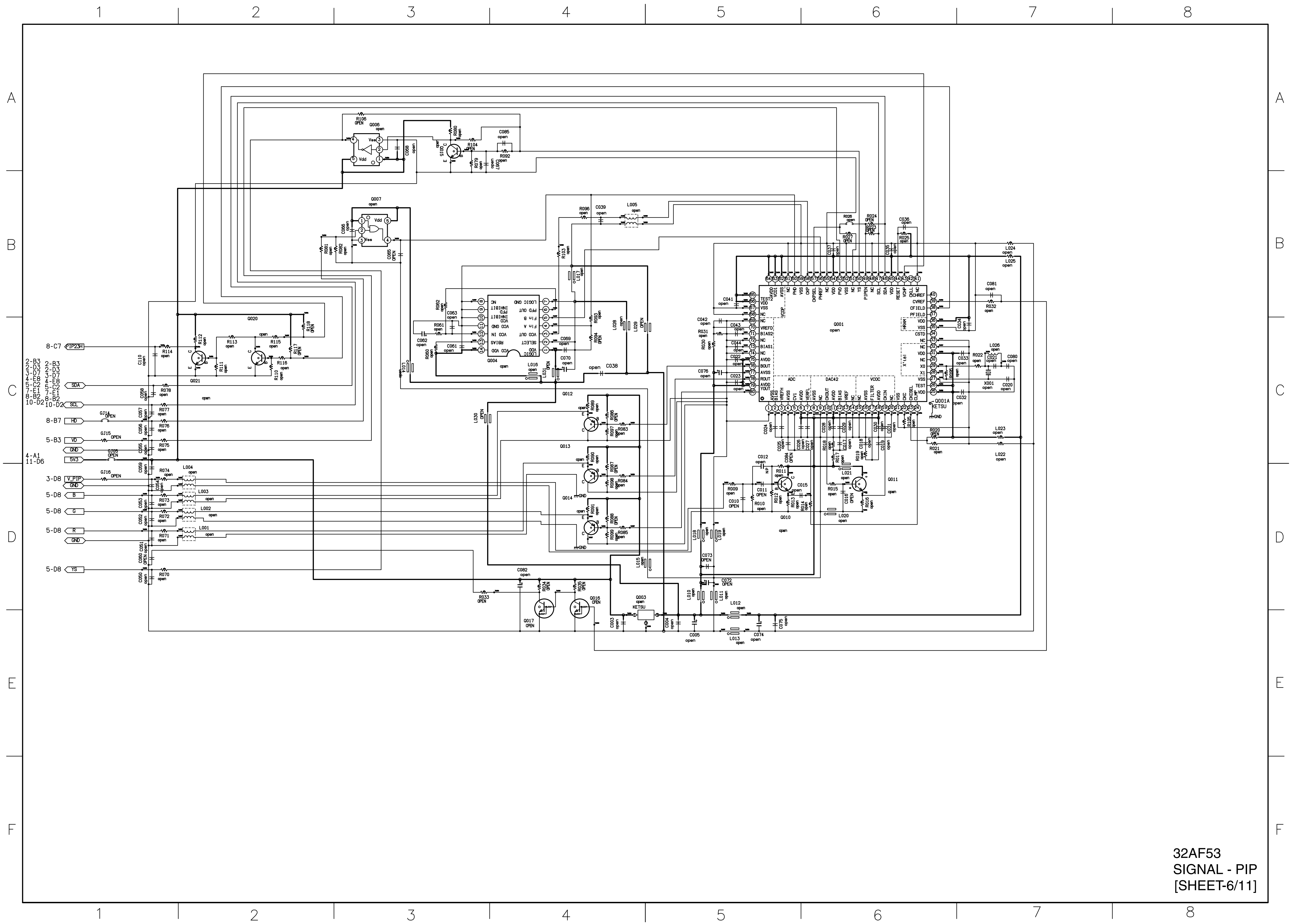
32AF53
SIGNAL - 3D_YCS
[SHEET-4/11]

32AF53
SIGNAL - VCD
[SHEET-5/11]

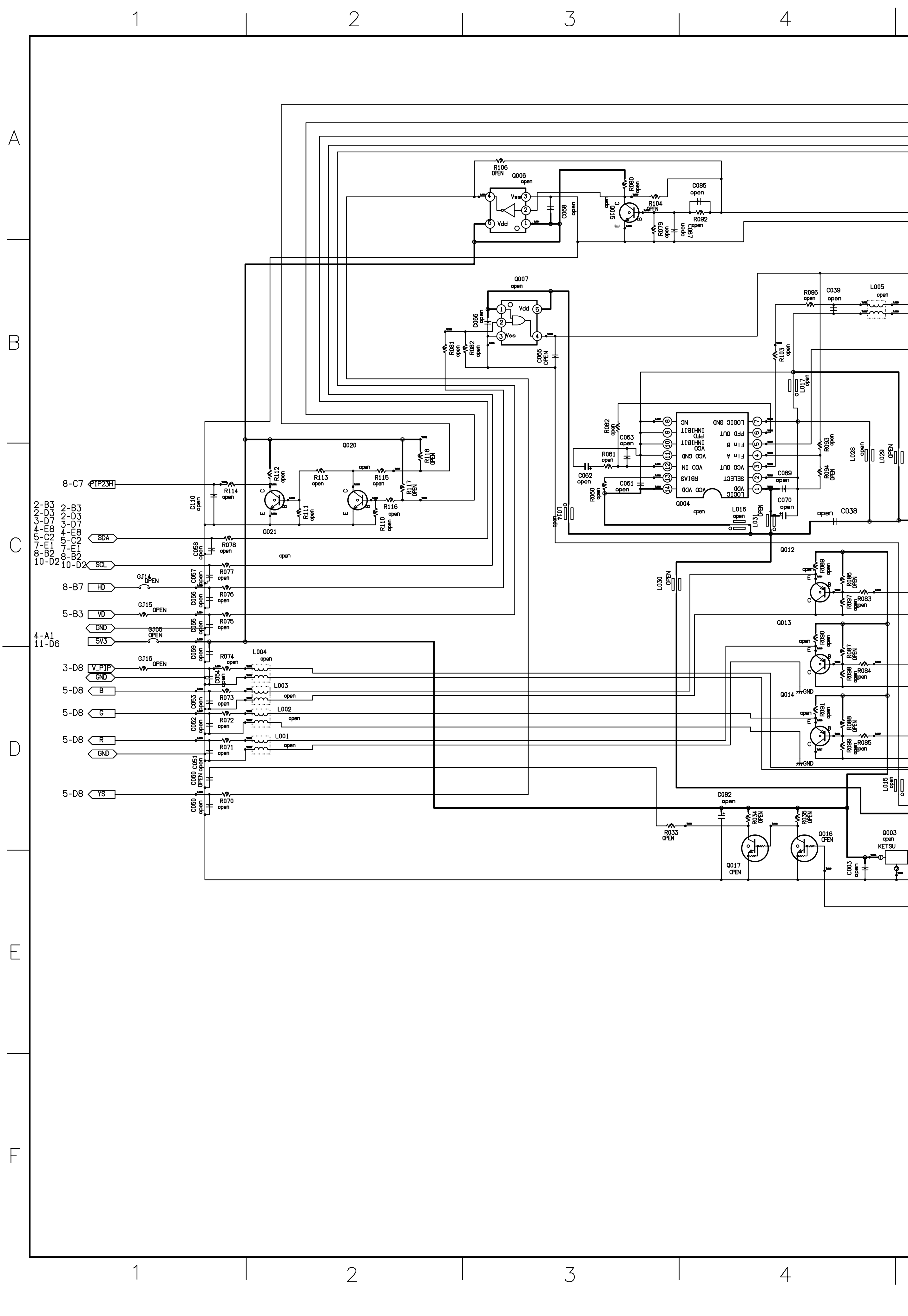

5V2
L2711
10u
G114
TEM2011Y/TEM2011AA
Q2701
CM0016AD
DC
I IN
B IN
G IN
R IN
AVSS
R
G
B
AVDD
AVSS
LPF
REF
AVDD
H
V
INT
SDA
SCL
XRST
TEM2011AA
L2704
L2705
TEM2118AS
8-C7 BLKRST
9-B5 HVcc
9-B4 AFC
5V2
6-C1 VD
8-C7 HDOUT
D2701
1SS133/1SS120-7
9-B5 BEND
9-B5 VBLK
8-C2 SYNCOUT-1
9-B5 HDRV
SCL
SDA
8-C2 SYNC
0.3V(p-p)(H)
FSC_CD
R361
OPEN
R363
OPEN
R364
OPEN
R332
4.7k
D314
OPEN
D315
OPEN
Q360
OPEN
GND
1.7V(p-p)
5.2V(p-p)
DC=0
1V
JP022
JP_12.5mm
9V1
9-B5 EW_FB
9-B5EW_OUT
9-B5 VOUT
9-B5 VNFB
8-C2 OSD-R
8-C2 OSD-G
8-C2 OSD-B
8-C2 OSD-YS
OSD-YS1
D2702
1SS133/1SS120-7
R2712
9-B5 ABL
8-D2 YM



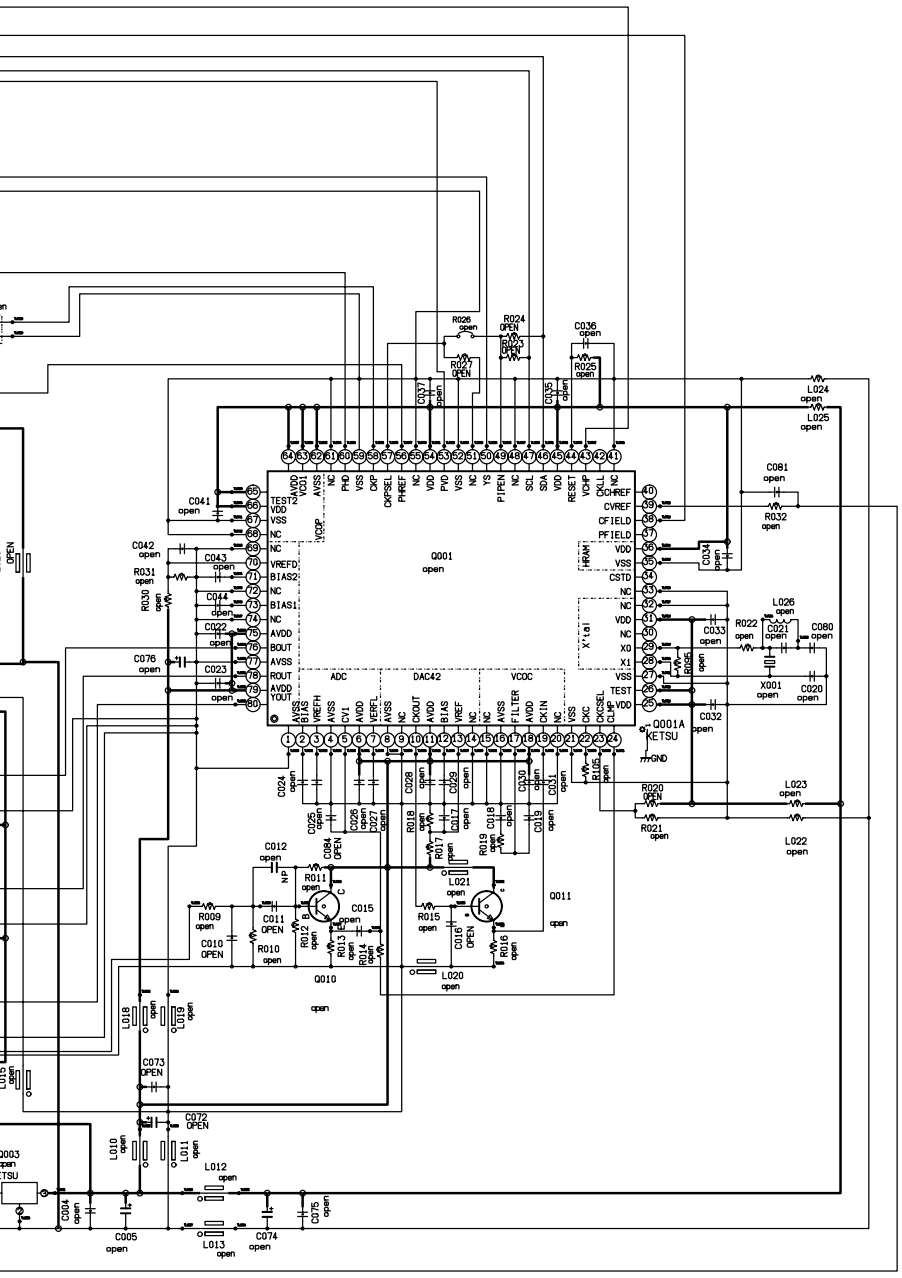
32AF53
SIGNAL - VCD
[SHEET-5/11]



32AF53
SIGNAL - PIP
[SHEET-6/11]

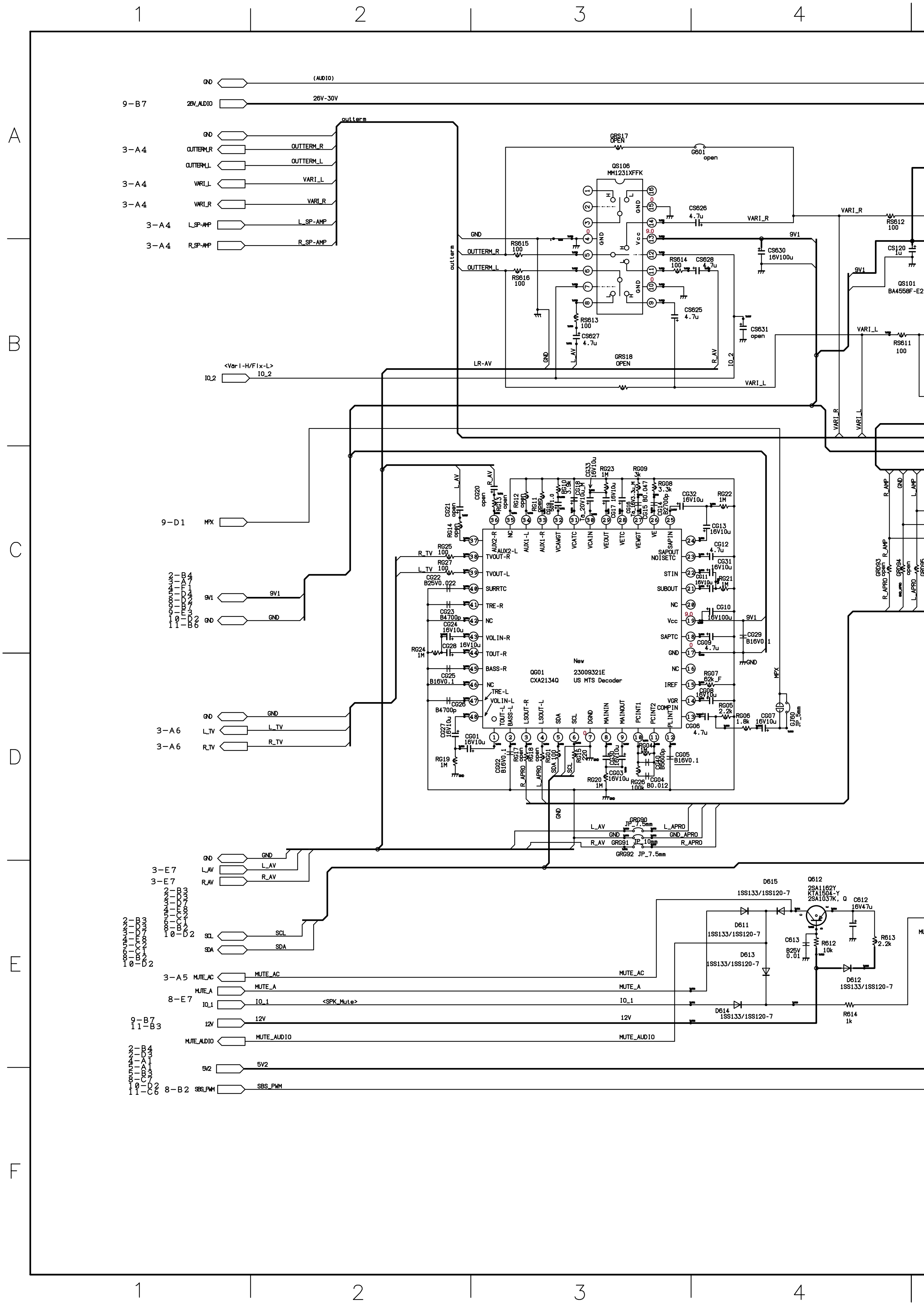


1
2
3
4
A
B
C
D
E
F
8-C7
PIP23H
2-B3
2-D3
3-D7
4-E8
5-C2
7-E1
8-B2
10-D2
SDA
SCL
8-B7
HD
5-B3
VD
GND
4-A1
11-D6
5V3
3-D8
V_PIP
5-D8
B
G
R
YS
GJ14 OPEN
GJ15 OPEN
GJ05 OPEN
GJ16 OPEN
R106 OPEN
Q006 open
Vss
Vdd
C068 open
Q015 open
R080 open
R104 OPEN
C085 open
R092 open
R079 open
C067 open
Q007 open
C066 open
R081 open
R082 open
C065 OPEN
R096 open
C039 open
L005 open
R103 open
L017 open
NC
INHIBIT
VCO GND
VCO IN
RBIAS
VCO VDD
LOGIC GND
PFD OUT
FIN B
FIN A
VCO OUT
SELECT
LOGIC VDD
R062 open
C063 open
R061 open
C062 open
R060 open
C061 open
Q004 open
L016 open
L031 OPEN
C069 open
C070 open
R093 open
R094 open
L028 open
L029 OPEN
C038 open
L001 open
Q020
R112 open
R113 open
R115 open
R117 OPEN
R118 OPEN
R114 open
R111 open
R116 open
R110 open
Q021
C110 open
C058 open
R078 open
C057 open
R077 open
C056 open
R076 open
C055 open
R075 open
C059 open
R074 open
L004 open
C054 open
L003 open
R073 open
C053 open
L002 open
R072 open
C052 open
L001 open
R071 open
C051 open
C060 OPEN
C050 open
R070 open
Q012
R089 open
R086 OPEN
R083
R097 open
L030 OPEN
Q013
R090 open
R087 OPEN
R084
R098 open
Q014
GND
R091 open
R088 OPEN
R085 open
R099 open
L015 open
C082 open
R033 OPEN
R034 OPEN
R035 OPEN
Q016 OPEN
Q017 OPEN
Q003 open KETSU
C003 open

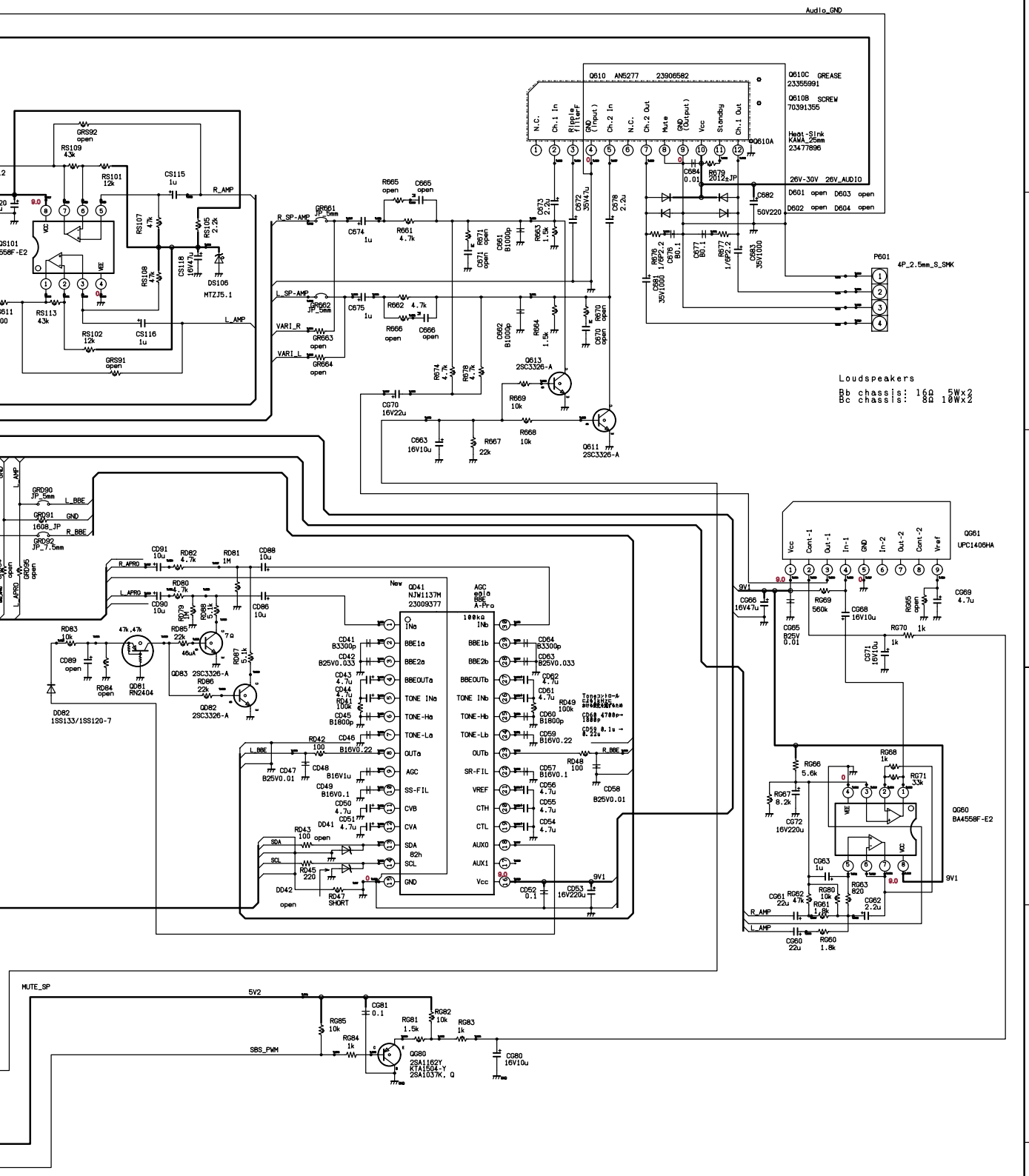


32AF53
SIGNAL - PIP
[SHEET-6/11]

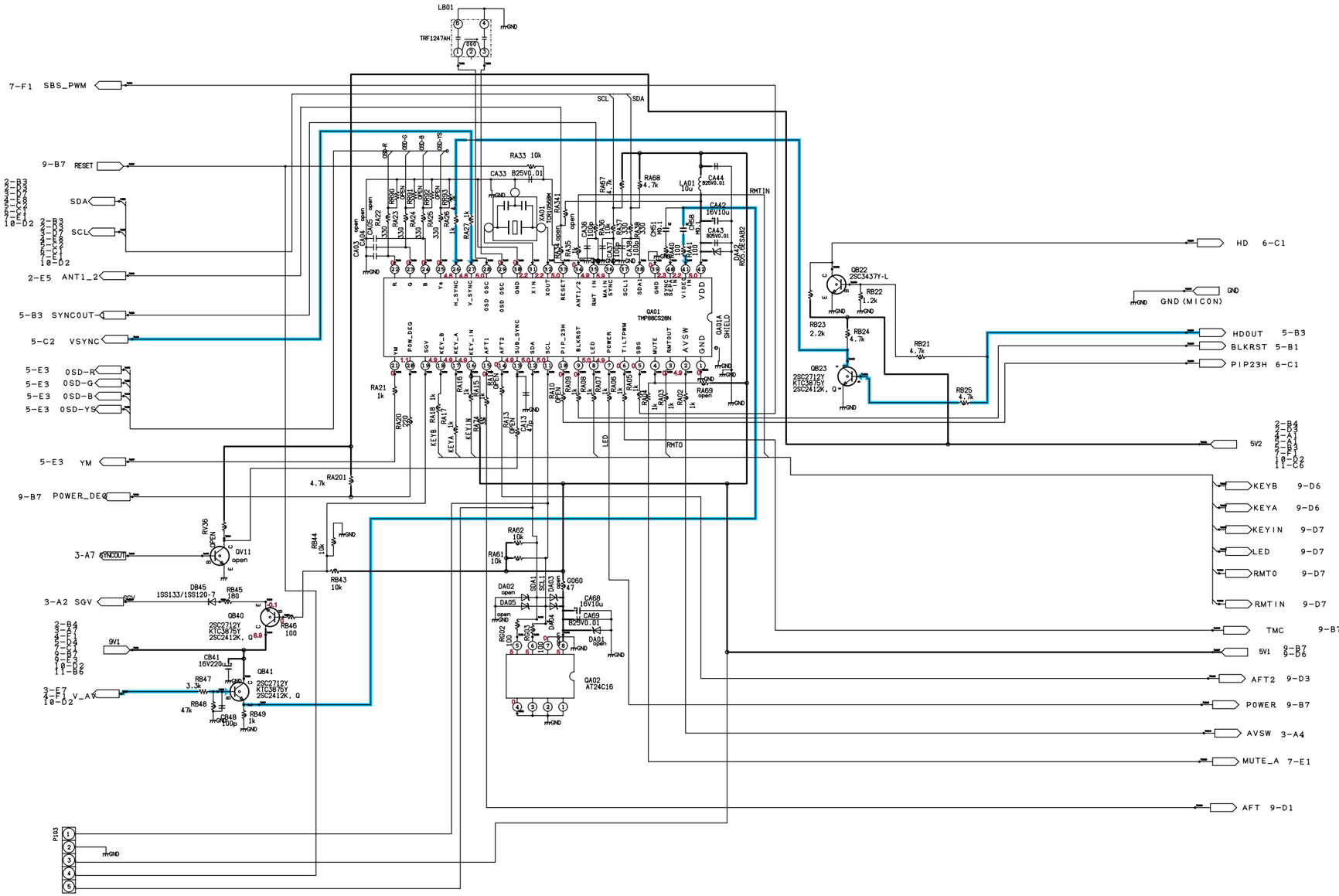
32AF53
SIGNAL - AUDIO
[SHEET-7/11]



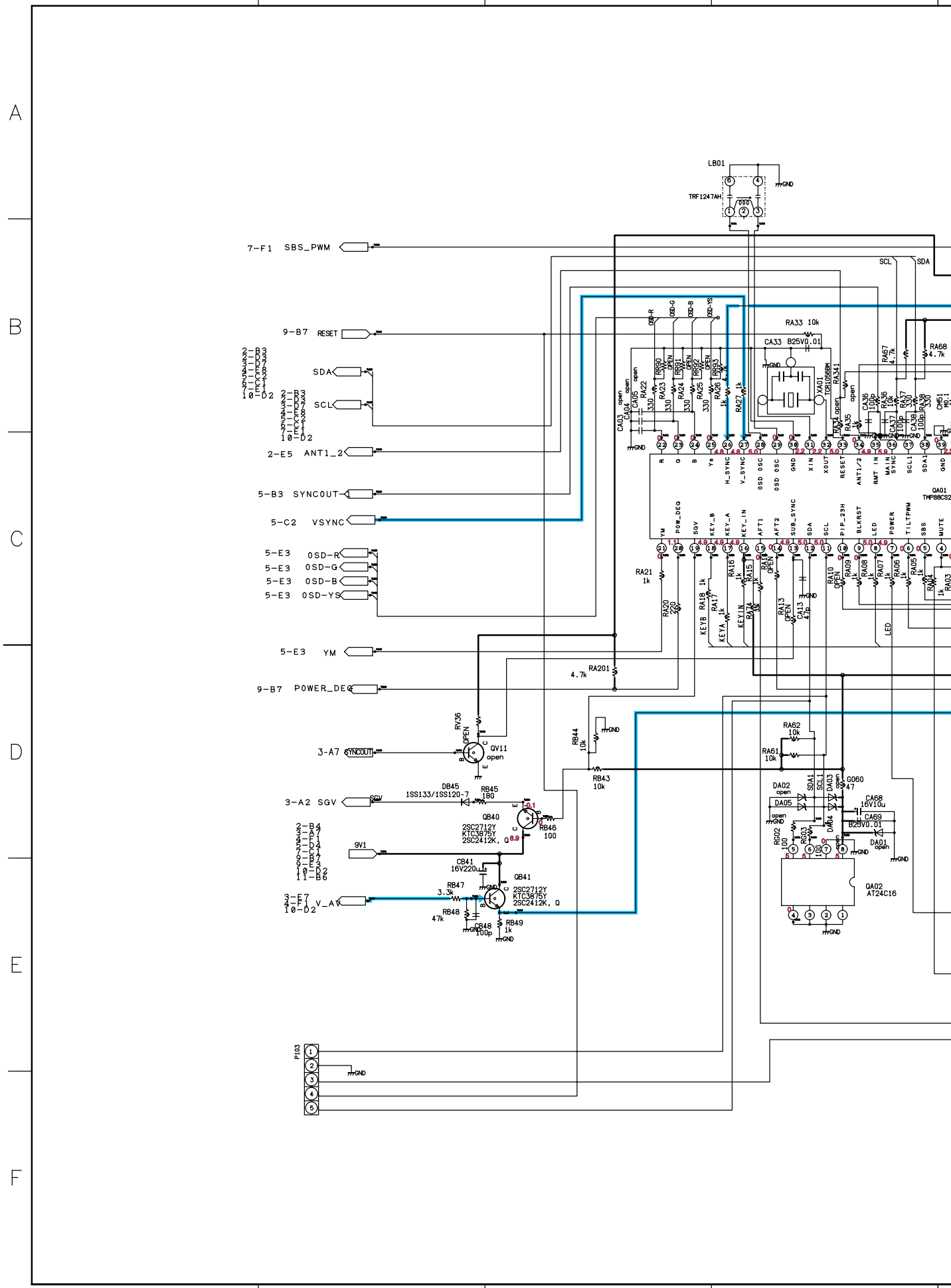
GND
(AUDIO)
9-B7 26V_AUDIO
26V-30V
outterm
3-A4 OUTTERM_R
OUTTERM_L
3-A4 VARI_L
3-A4 VARI_R
3-A4 L_SP-AMP
3-A4 R_SP-AMP
GRS17 OPEN
G601 open
QS106
MM1231XFFK
CS626 4.7u
VARI_R
RS612 100
9V1
RS615 100
RS616 100
RS614 100
CS628 4.7u
CS630 16V100u
CS120 1u
QS101
BA4558F-E2
CS625 4.7u
RS613 100
CS627 4.7u
CS631 open
VARI_L
RS611 100
GRS18 OPEN
LR-AV
L_AV
R_AV
IO_2
<Vari-H/Fix-L>
9-D1 MPX
2-B4 3-A7 4-F1 5-D4 8-D2 9-B7 9-E3 10-D2 11-B6
QG01
CXA2134Q
New
23009321E
US MTS Decoder
AUX2-R
AUX2-L
TVOUT-R
TVOUT-L
SURRTC
TRE-R
NC
VOLIN-R
TOUT-R
BASS-R
TRE-L
VOLIN-L
TOUT-L
BASS-L
LSOUT-R
LSOUT-L
SDA
SCL
DGND
MAININ
MAINOUT
PCINT1
PCINT2
PLINT
COMPIN
VGR
IREF
SAPTC
Vcc
SUBOUT
STIN
NOISETC
SAPOUT
SAPIN
VE
VEWGT
VETC
VEOUT
VCAIN
VCATC
VCAWGT
AUX1-R
AUX1-L
3-A6 L_TV
3-A6 R_TV
GRG90 JP_7.5mm
GRG91 JP_10mm
GRG92 JP_7.5mm
L_APRO
GND_APRO
R_APRO
GJ60 JP_5mm
3-E7 L_AV
3-E7 R_AV
2-B3 2-D3 3-D7 4-E8 5-C2 6-C1 8-B2 10-D2
SCL
SDA
3-A5 MUTE_AC
MUTE_A
8-E7 IO_1
<SPK_Mute>
9-B7 11-B3 12V
MUTE_AUDIO
2-B4 2-D3 4-A1 5-A1 5-B3 8-C7 10-D2 11-C6 5V2
8-B2 SBS_PWM
D615 1SS133/1SS120-7
Q612
2SA1162Y
KTA1504-Y
2SA1037K, Q
C612 16V47u
D611 1SS133/1SS120-7
C613 B25V 0.01
R612 10k
R613 2.2k
D613 1SS133/1SS120-7
D612 1SS133/1SS120-7
D614 1SS133/1SS120-7
R614 1k

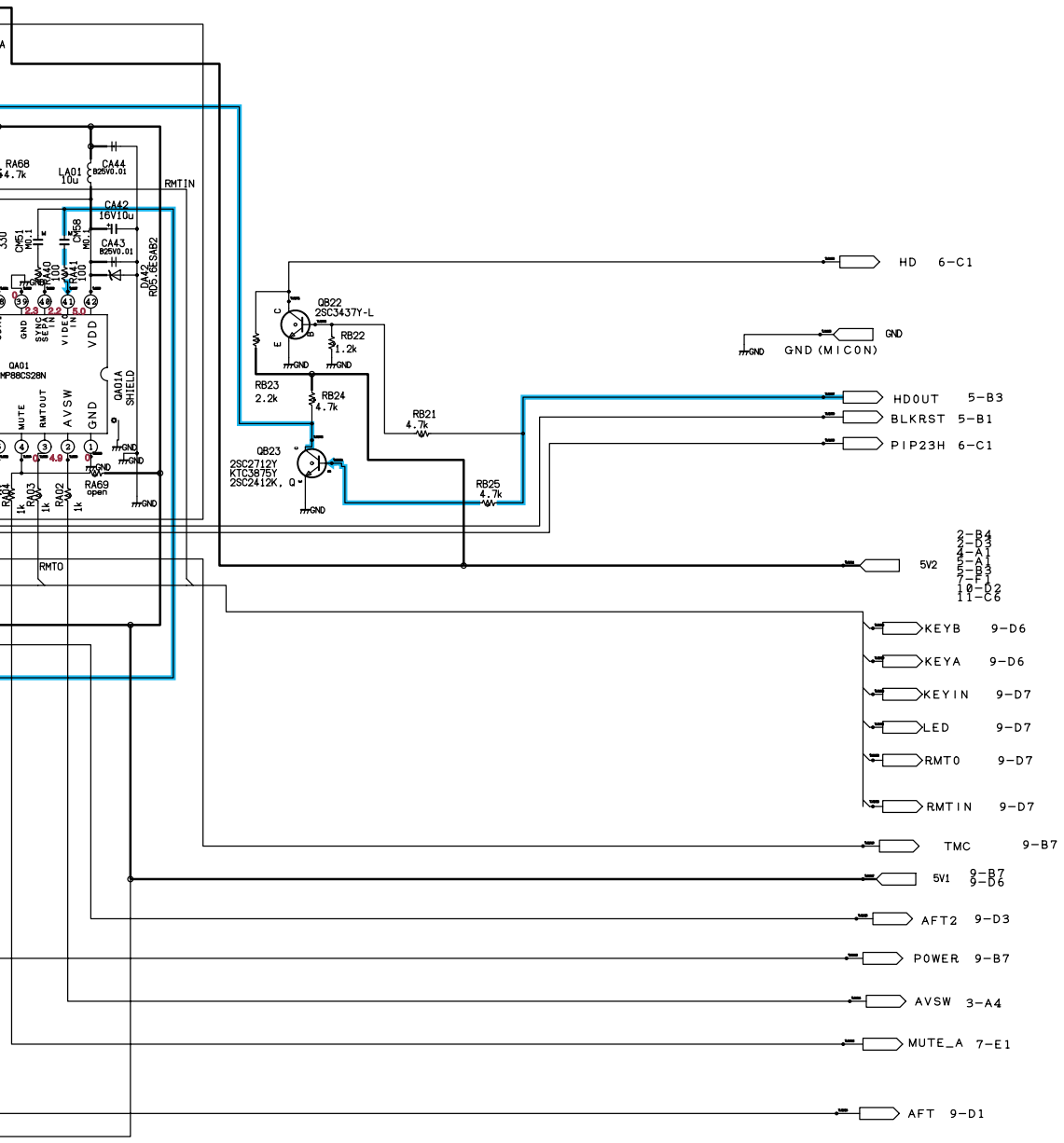


32AF53
SIGNAL - AUDIO
[SHEET-7/11]



32AF53
SIGNAL - MICON
[SHEET-8/11]


LB01
TRF1247AH
7-F1 SBS_PWM
9-B7 RESET
SDA
SCL
2-E5 ANT1_2
5-B3 SYNCOUT
5-C2 VSYNC
5-E3 OSD-R
5-E3 OSD-G
5-E3 OSD-B
5-E3 OSD-YS
5-E3 YM
9-B7 POWER_DEG
3-A7 SYNCOUT
3-A2 SGV
9V1
3-E7 V_AV
10-D2
RA33 10k
CA33 B25V0.01
QA01 TMP88CS2
QA02 AT24C16
QV11 open
QB40 2SC2712Y KTC3875Y 2SC2412K, Q
QB41 2SC2712Y KTC3875Y 2SC2412K, Q
DB45 1SS133/1SS120-7
P103



32AF53
SIGNAL - MICON
[SHEET-8/11]

To:POWER-DEF

SOCKET B-B 6P 2.5
BB04A

GND
32V
2-B4
2-B3

To:POWER-DEF

BB02A
BB 16P BLUG

GND
VNFB 5-D3
VOUT 5-D3
ABL 5-E4
BEND 5-B3
EW_OUT
EW_FB 5-D3
HVcc 5-A3
V_DAF_RGB_OUT 5-E8
VBLK 5-B3
AFC 5-B3
ABL_SW 3-D7
HDRV 5-C3

To:POWER-DEF

BB01A
BB 16P BLUG

26V_AUDIO 7-A1
GND
TMC 8-D7
GND
5V1
GND
POWER 8-E7
POWER_DEG 8-D2
RESET 8-B2
9V1
GND
12V 7-E1

To:Main IF UNIT

PA01A
TAC-L CONNECTOR

GND
IF 2-A4
9V1_1 2-A5
MPX 7-C1
AFT 8-E7
AGC 2-A5
V_TV 3-A6

To:Sub IF Unit
(use 32AFX63, 36AFX63)

PA11A
KETSU

GND
IF2 2-D4
9V2_1 2-D4
MPX2 3-A3
AFT2 8-E7
AGC2 2-D5
V_TV2 3-A4

To:ANT SW

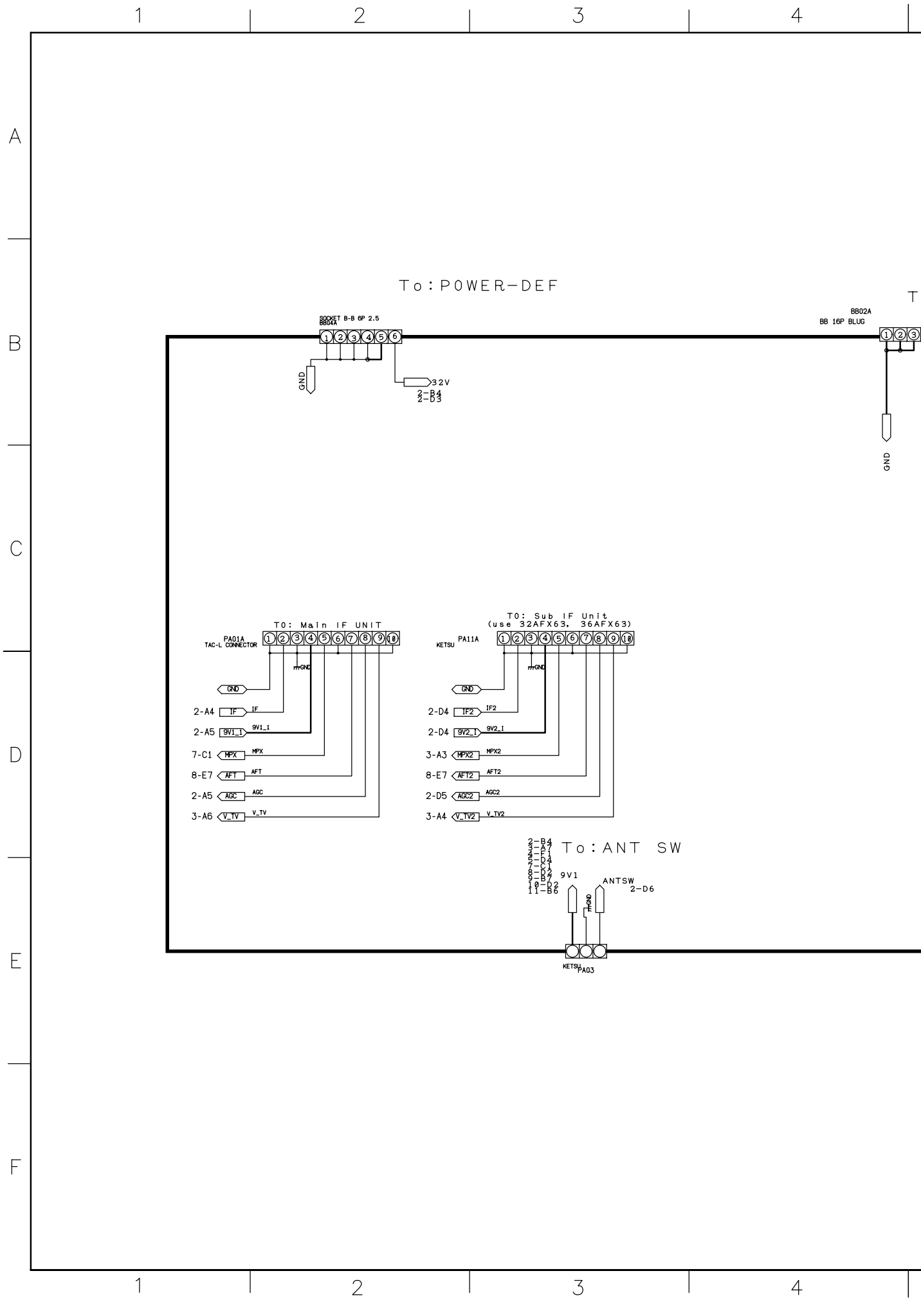
9V1 2-B4
ANTSW 2-D6
KETSU PA03

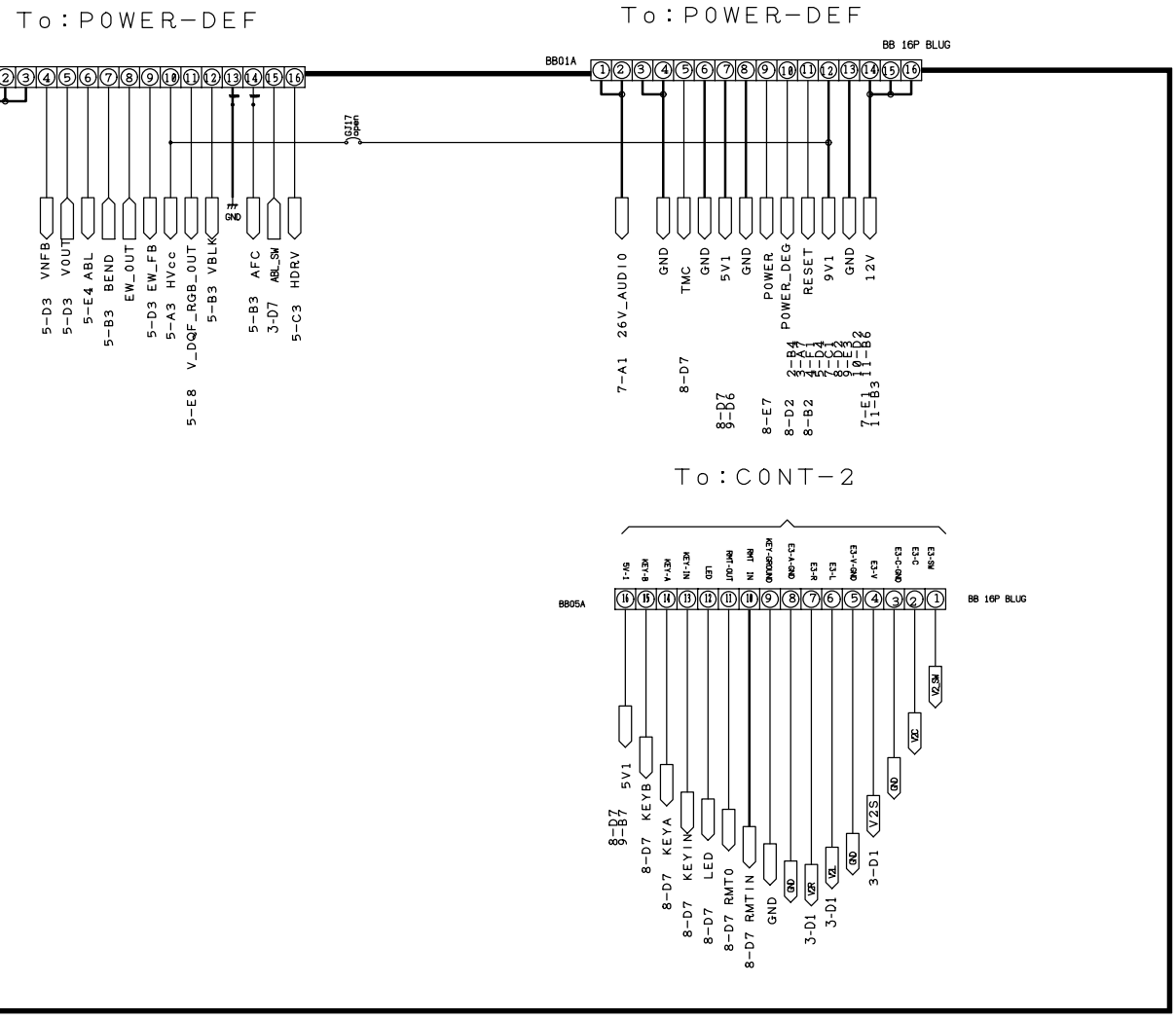
To:CONT-2

BB05A
BB 16P BLUG

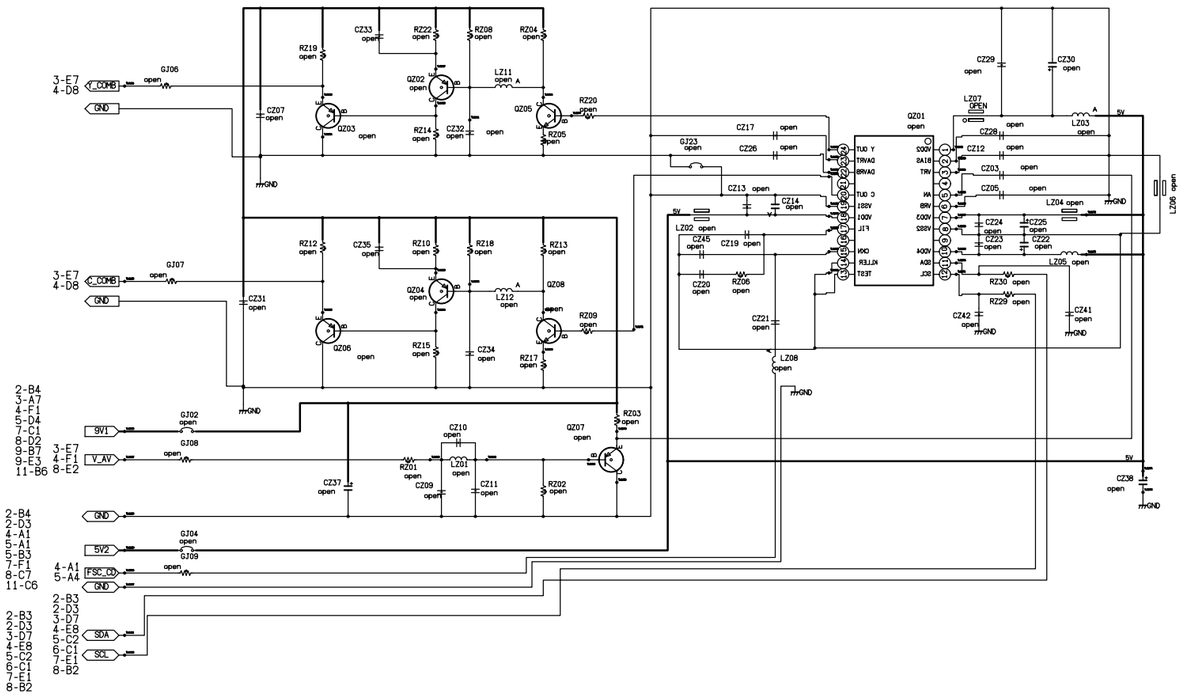
5V1 8-D7
KEYB 8-D7
KEYA 8-D7
KEYIN 8-D7
LED 8-D7
RMT0 8-D7
RMTIN 8-D7
GND
GND
VOL 3-D1
VOL 3-D1
GND
V2.5 3-D1
GND
VCC
V2.5V

32AF53
SIGNAL - BANKAN
[SHEET-9/11]

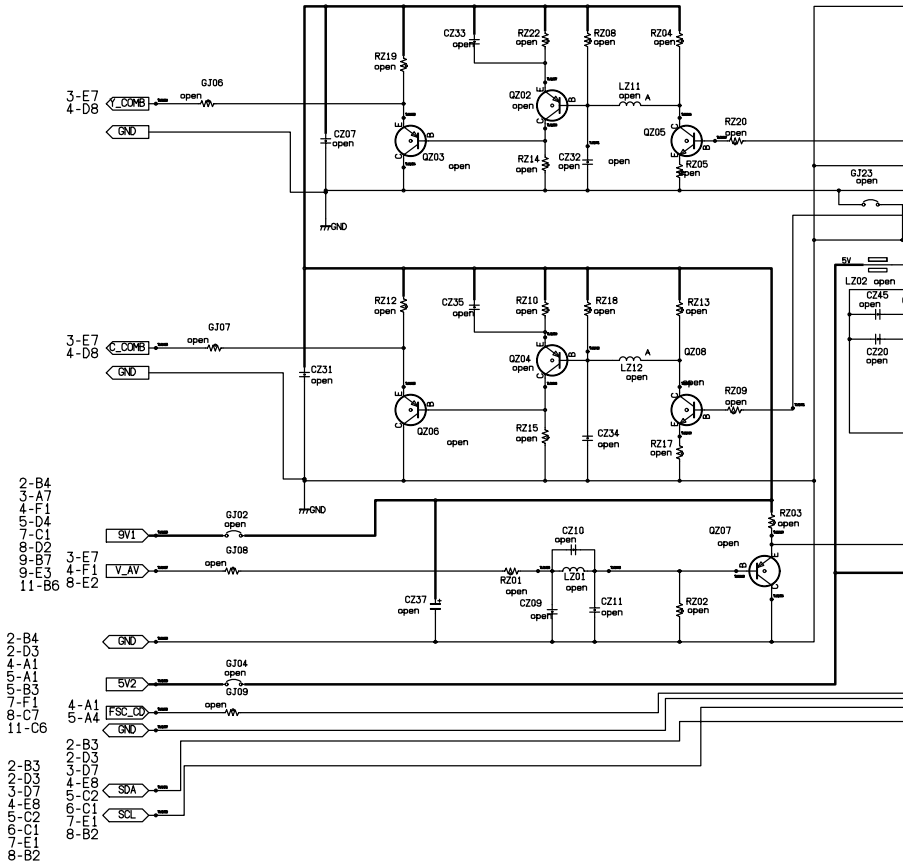

To : POWER-DEF
SOCKET B-B 6P 2.5
BB04A
GND
32V
2-B4
2-D3
BB02A
BB 16P BLUG
GND
T0: Main IF UNIT
PA01A
TAC-L CONNECTOR
GND
2-A4 IF
2-A5 9V1_1
7-C1 MPX
8-E7 AFT
2-A5 AGC
3-A6 V_TV
T0: Sub IF Unit
(use 32AFX63, 36AFX63)
PA11A
KETSU
GND
2-D4 IF2
2-D4 9V2_I
3-A3 MPX2
8-E7 AFT2
2-D5 AGC2
3-A4 V_TV2
To : ANT SW
2-B4
3-A7
4-F1
5-D4
7-C1
8-D2
9-B7
10-D2
11-B6
9V1
ANTSW
2-D6
KETSU
PA03

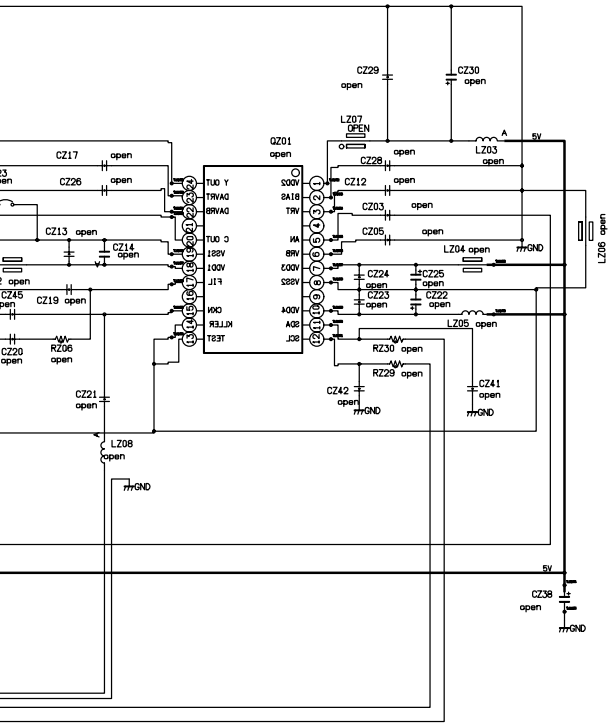


32AF53
SIGNAL - BANKAN
[SHEET-9/11]

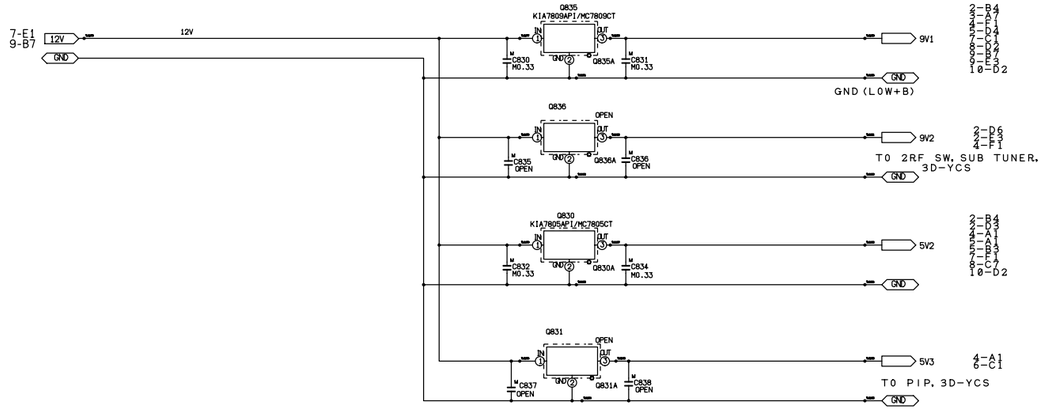


32AF53
SIGNAL - 3L_COMB
[SHEET-10/11]

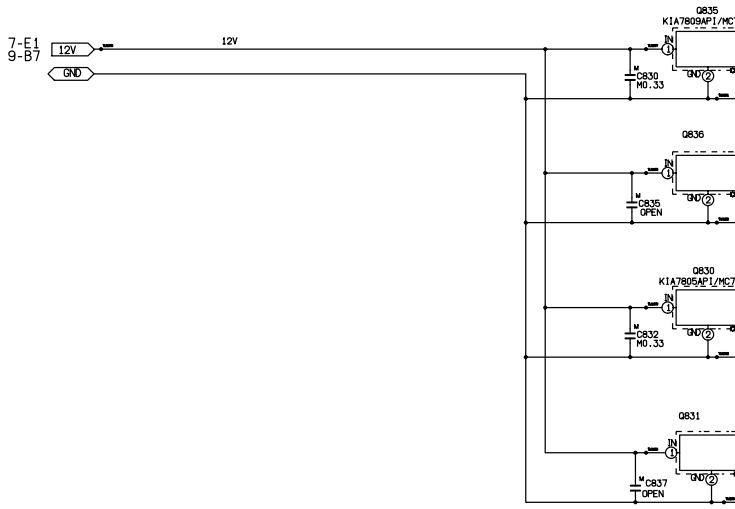

3-E7
4-D8
V_COMB
GND
GJ06
open
CZ07
open
QZ03
open
CZ33
open
RZ22
open
RZ08
open
RZ04
open
RZ19
open
QZ02
open
LZ11
open
A
QZ05
RZ20
open
RZ14
open
CZ32
open
RZ05
open
GJ23
open
GND
5V
LZ02 open
CZ45
open
CZ20
open
3-E7
4-D8
C_COMB
GND
GJ07
open
CZ31
open
QZ06
open
RZ12
open
CZ35
open
RZ10
open
RZ18
open
RZ13
open
QZ04
open
LZ12
open
A
QZ08
open
RZ09
open
RZ15
open
CZ34
open
RZ17
open
GND
2-B4
3-A7
4-F1
5-D4
7-C1
8-D2
9-B7
9-E3
11-B6
9V1
GJ02
open
3-E7
4-F1
8-E2
V_AV
GJ08
open
CZ37
open
RZ01
open
CZ09
open
CZ10
open
L201
open
CZ11
open
RZ02
open
QZ07
open
RZ03
open
2-B4
2-D3
4-A1
5-A1
5-B3
7-F1
8-C7
11-C6
GND
5V2
GJ04
open
GJ09
4-A1
5-A4
FSC_CO
GND
open
2-B3
2-D3
3-D7
4-E8
5-C2
6-C1
7-E1
8-B2
2-B3
2-D3
3-D7
4-E8
5-C2
6-C1
7-E1
8-B2
SDA
SCL

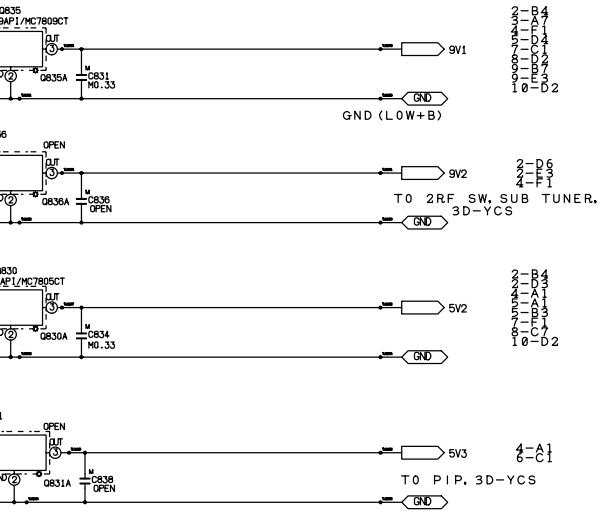


32AF53
SIGNAL - 3L_COMB
[SHEET-10/11]



32AF53
SIGNAL - LowB REG.
[SHEET-11/11]


7-E1
9-B7
12V
GND
12V
Q835
KIA7809API/MC7
IN
GND
C830
M0.33
Q836
C835
OPEN
Q830
KIA7805API/MC7
C832
M0.33
Q831
C837
OPEN



32AF53
SIGNAL - LowB REG.
[SHEET-11/11]

V-DEF_DPC
Sheet2

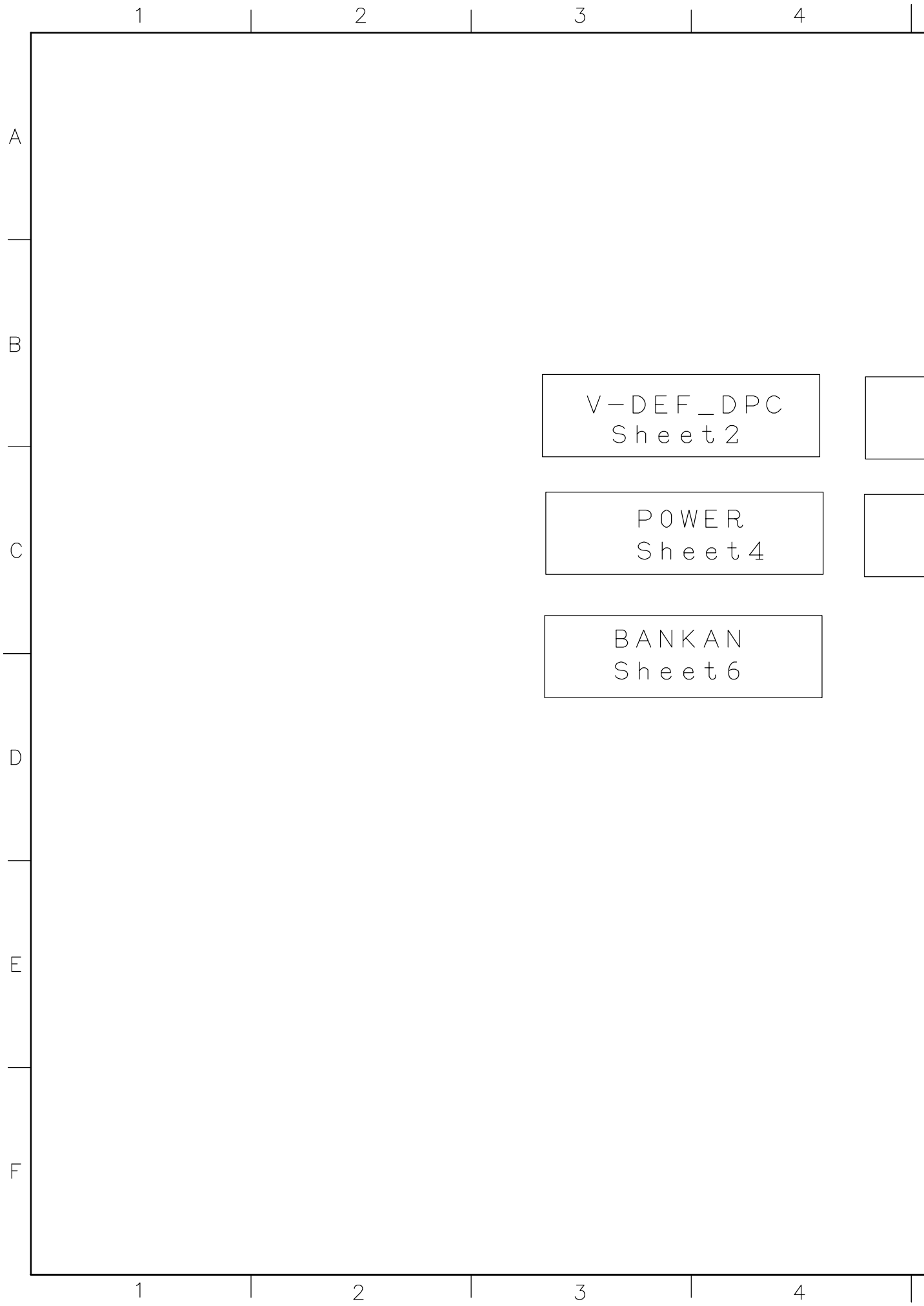
H-DEF
Sheet3

POWER
Sheet4

TILT
Sheet5

BANKAN
Sheet6

32AF43
POWER/DEF - BLOCK DIAGRAM
[SHEET-1/6]


1
2
3
4
A
B
C
D
E
F
V-DEF_DPC
Sheet2
POWER
Sheet4
BANKAN
Sheet6

H-DEF
Sheet3

TILT
Sheet5

A

B

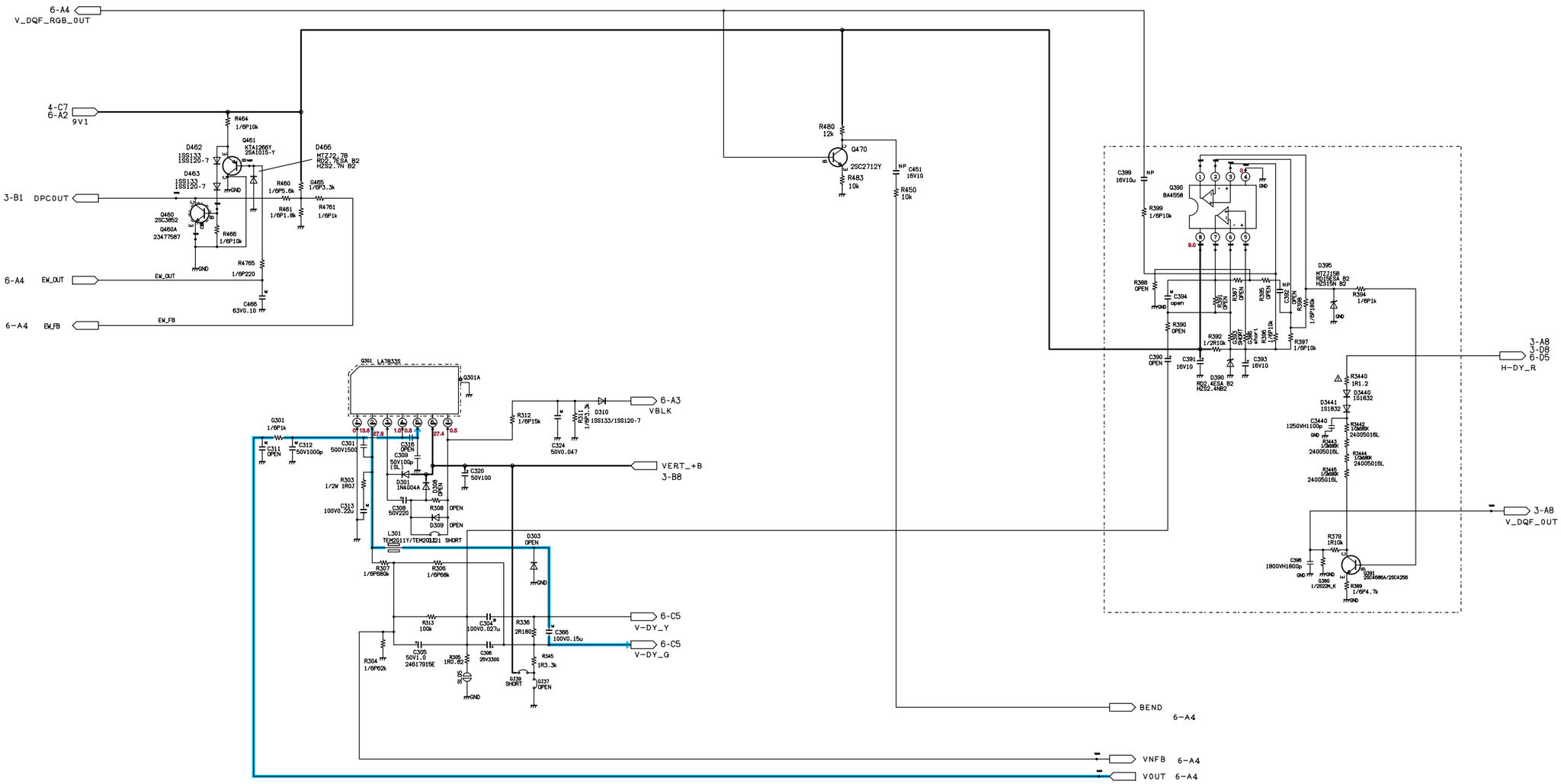
C

D

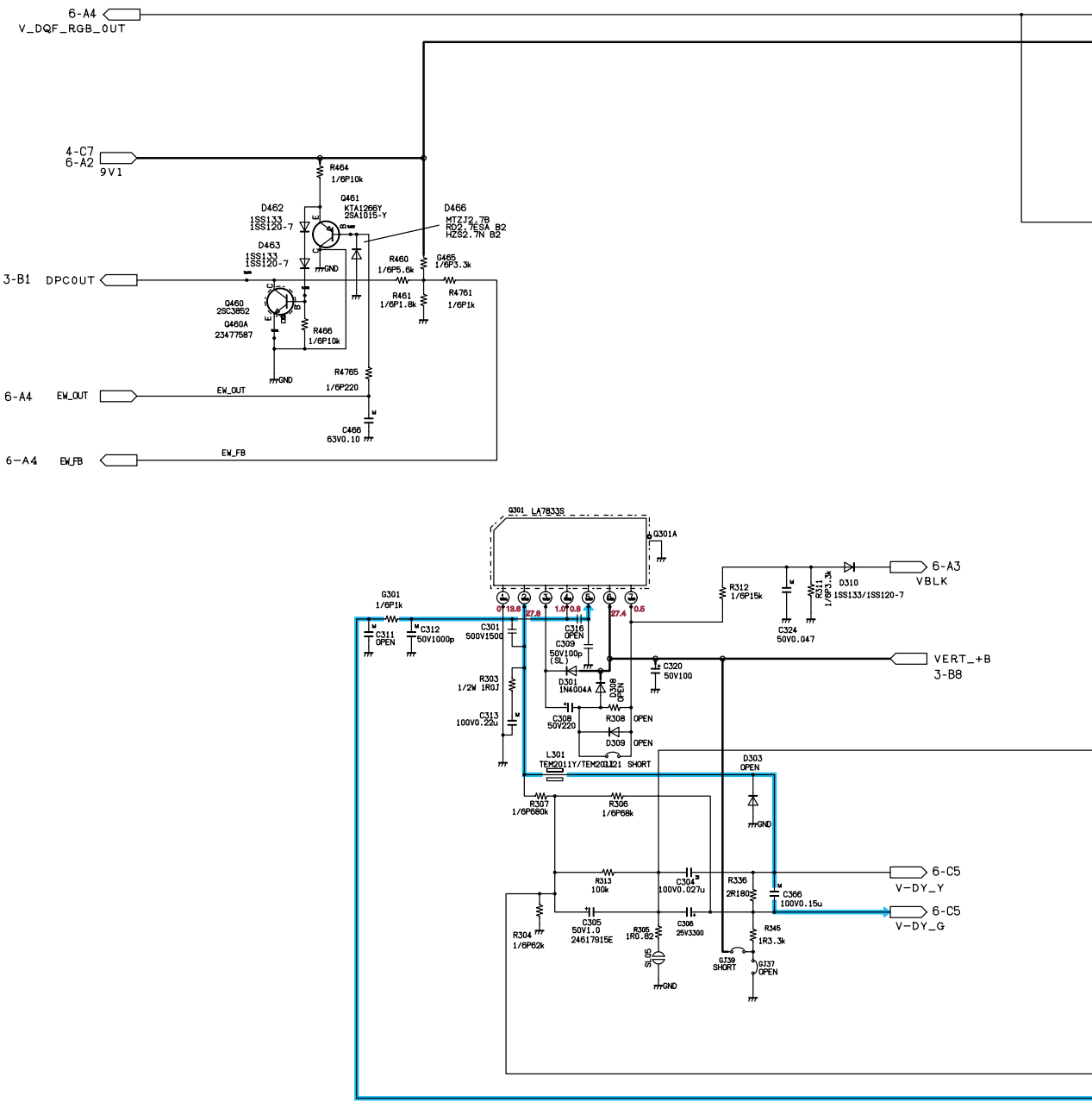
E

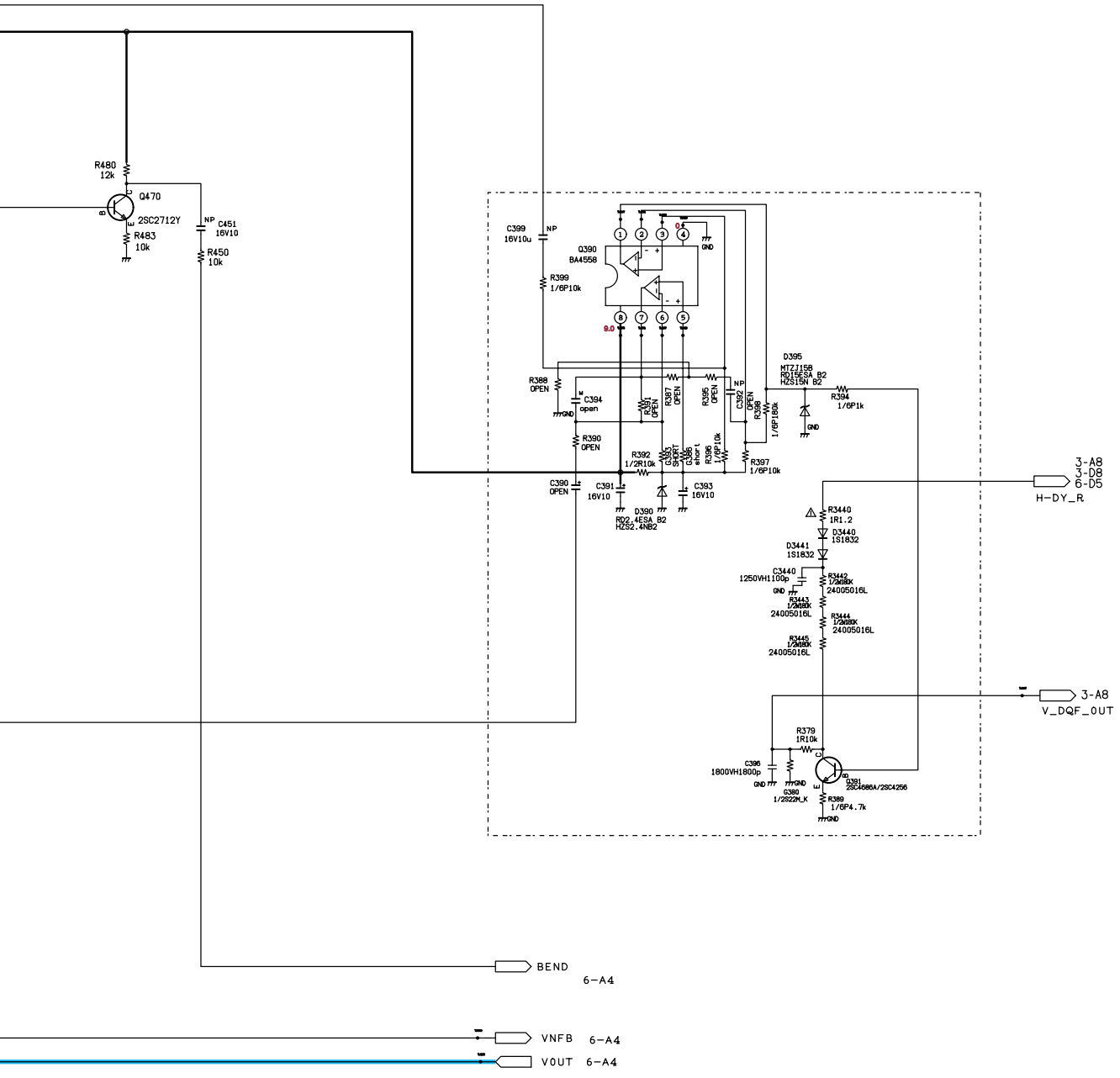
F

32AF43
POWER/DEF - BLOCK DIAGRAM
[SHEET-1/6]

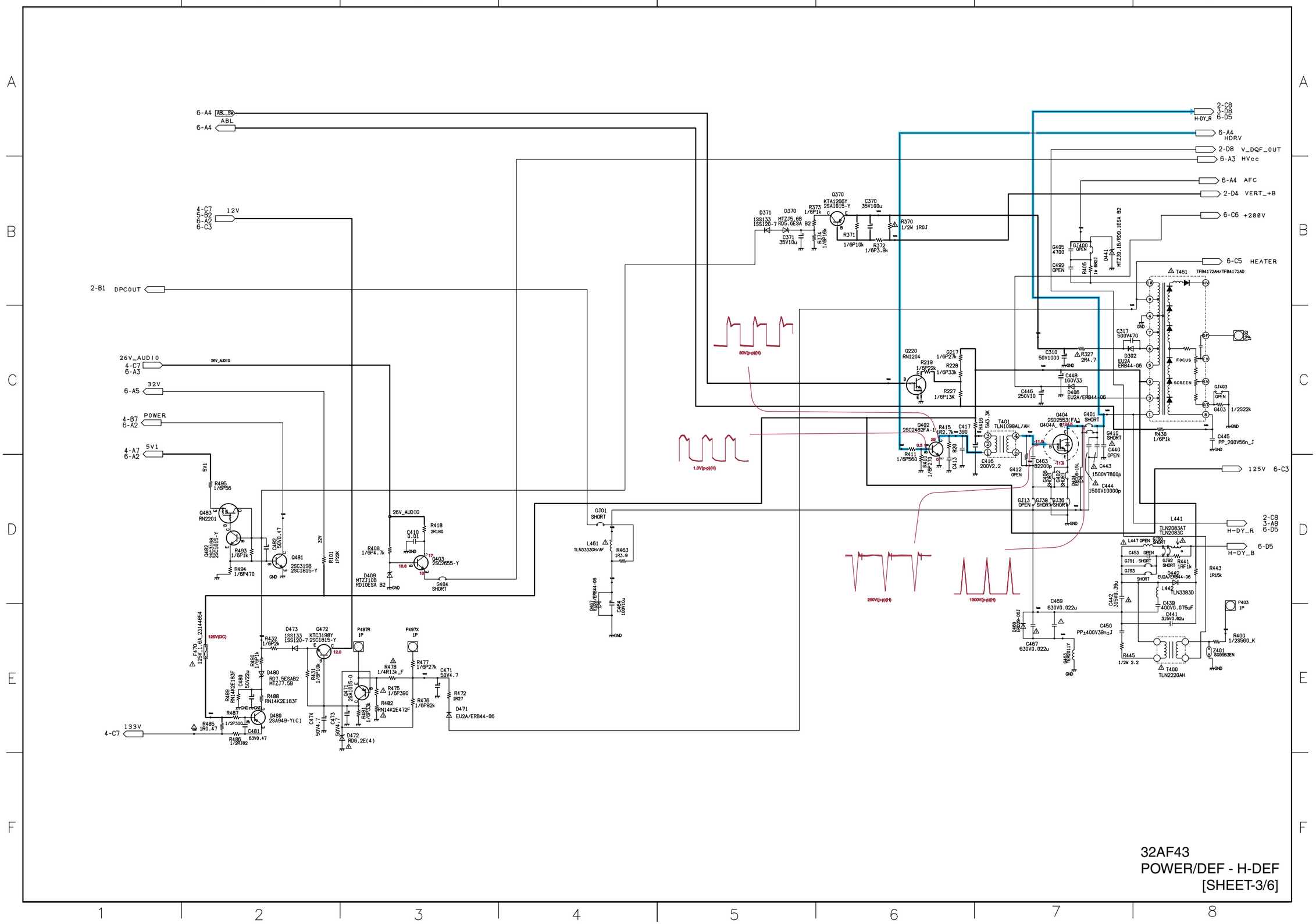


32AF43
POWER/DEF - V-DEF_DPC
[SHEET-2/6]

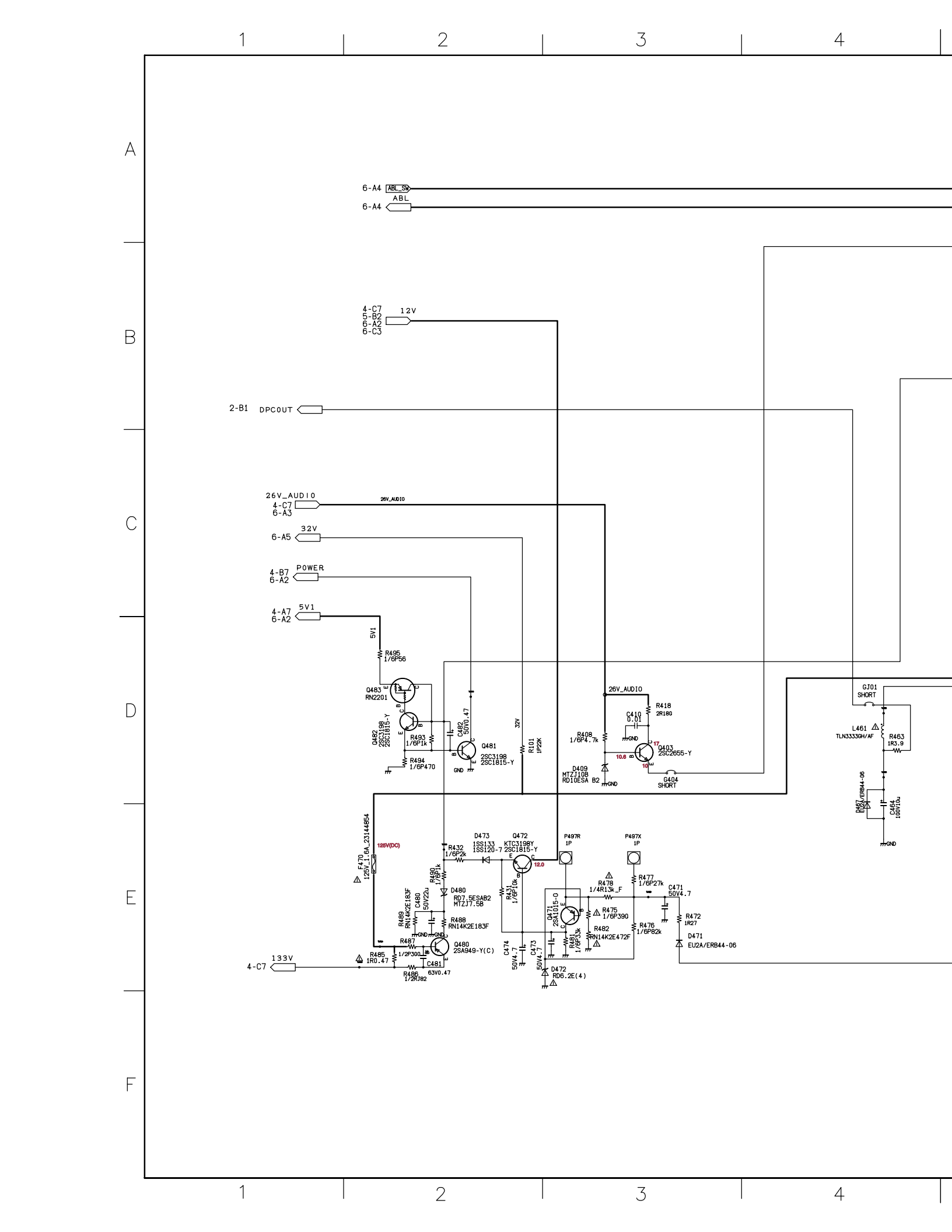

6-A4
V_DQF_RGB_OUT
4-C7
6-A2
9V1
R464
1/6P10k
D462
1SS133
1SS120-7
Q461
KTA1266Y
2SA1015-Y
D466
MTZJ2.7B
RD2.7ESA B2
HZS2.7N B2
D463
1SS133
1SS120-7
GND
R460
1/6P5.6k
R465
1/6P3.3k
3-B1
DPCOUT
R461
1/6P1.8k
R4761
1/6P1k
Q460
2SC3852
Q460A
23477587
R466
1/6P10k
GND
R4765
1/6P220
6-A4
EW_OUT
EW_OUT
C466
63V0.10
6-A4
EW_FB
EW_FB
Q301 LA78338
Q301A
G301
1/6P1k
C311
OPEN
C312
50V1000p
C301
500V1500
C316
OPEN
C309
50V100p
(SL)
D301
1N4004A
D308
OPEN
R303
1/2W 1R0J
C313
100V0.22u
C308
50V220
R308
OPEN
D309
OPEN
L301
TEM2011Y/TEM2012121 SHORT
R307
1/6P680k
R306
1/6P68k
D303
OPEN
GND
R312
1/6P15k
C324
50V0.047
R311
1/6P3.3k
D310
1SS133/1SS120-7
6-A3
VBLK
C320
50V100
VERT_+B
3-B8
R313
100k
C304
100V0.027u
R336
2R180
C366
100V0.15u
6-C5
V-DY_Y
6-C5
V-DY_G
R304
1/6P62k
C305
50V1.0
24617915E
R305
1R0.82
C306
25V3300
R345
1R3.3k
SL05
GJ39
SHORT
GJ37
OPEN
GND
0
18.0
27.8
1.0
0.8
27.4
0.5

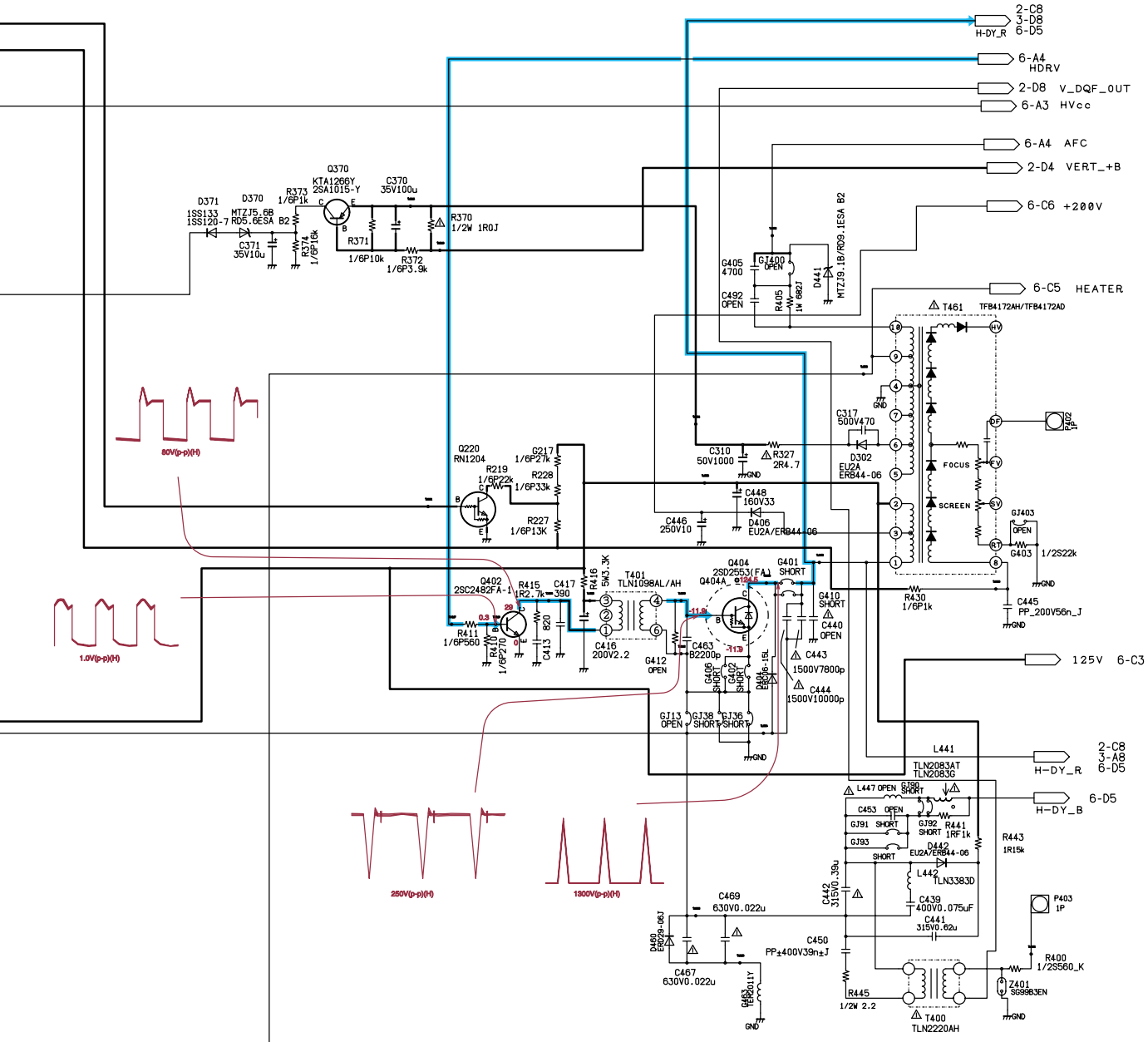


32AF43
POWER/DEF - V-DEF_DPC
[SHEET-2/6]

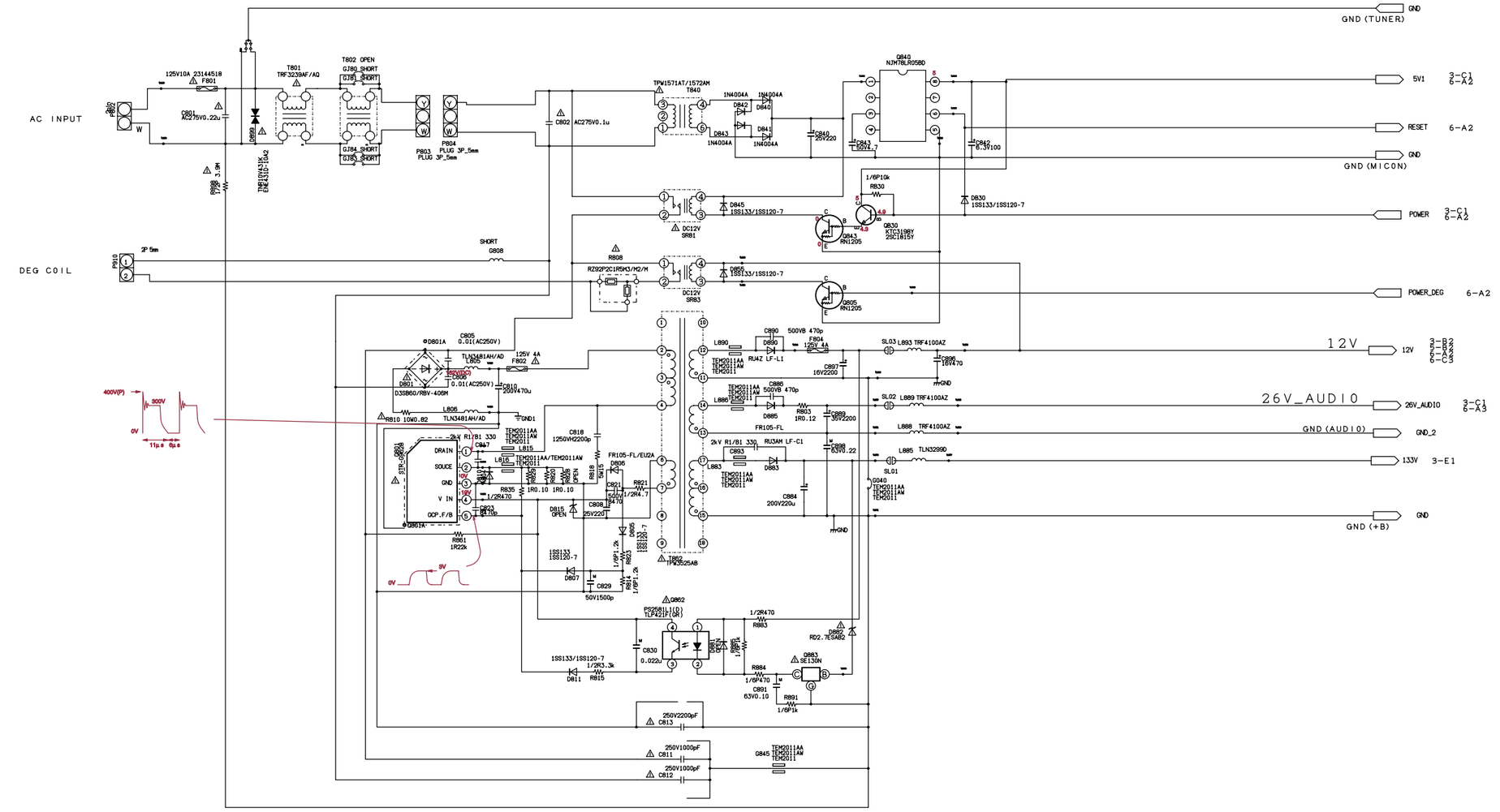


32AF43
POWER/DEF - H-DEF
[SHEET-3/6]

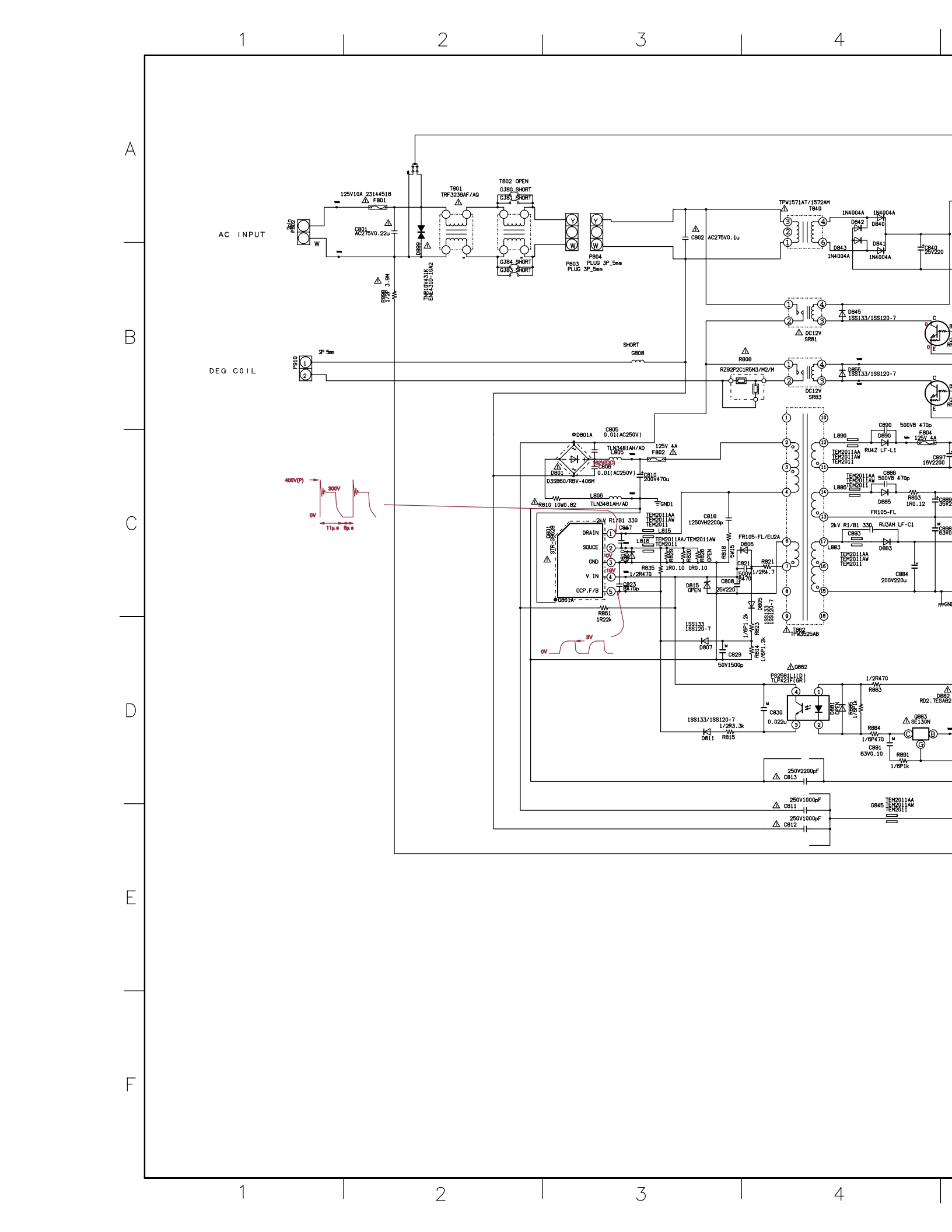

6-A4 ABL_SW
ABL
6-A4
4-C7
5-B2
6-A2
6-C3
12V
2-B1 DPCOUT
26V_AUDIO
4-C7
6-A3
26V_AUDIO
32V
6-A5
4-B7
6-A2
POWER
4-A7
6-A2
5V1
R495 1/6P56
Q483 RN2201
Q482 2SC3198 2SC1815-Y
R493 1/6P1k
R494 1/6P470
C482 50V0.47
Q481 2SC3198 2SC1815-Y
GND
32V
R101 1P22k
26V_AUDIO
R418 2R180
C410 0.01
R408 1/6P4.7k
Q403 2SC2655-Y
D409 MTZJ10B RD10ESA B2
G404 SHORT
GJ01 SHORT
L461 TLN3333GH/AF
R463 1R3.9
C464 100V10u
F470 125V 1.6A_23144854
125V(DC)
R432 1/6P2k
D473 1SS133 1SS120-7
Q472 KTC3198Y 2SC1815-Y
P497R 1P
P497X 1P
R490 1/6P1k
D480 RD7.5ESAB2 MTZJ7.5B
C480 50V22u
R489 RN14K2E183F
R488 RN14K2E183F
R487 1/2P300
Q480 2SA949-Y(C)
C481 63V0.47
R485 1R0.47
R486 1/2RJ82
133V
4-C7
R431 1/6P10k
Q471 2SA1015-O
R478 1/4R13k_F
R475 1/6P390
R482 RN14K2E472F
R477 1/6P27k
R476 1/6P82k
C471 50V4.7
R472 1R27
D471 EU2A/ERB44-06
C474 50V4.7
C473 50V4.7
D472 RD6.2E(4)

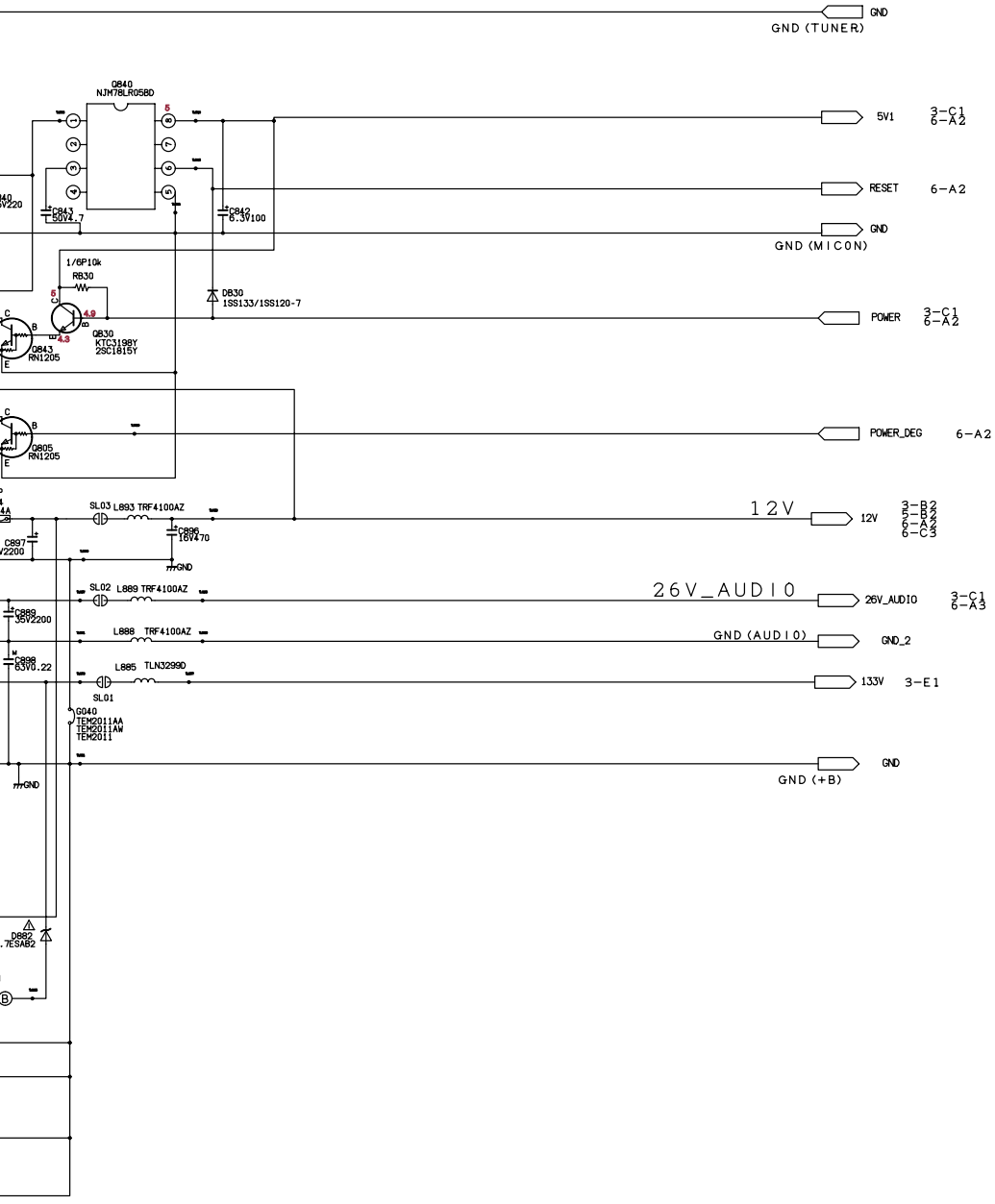


32AF43
POWER/DEF - H-DEF
[SHEET-3/6]

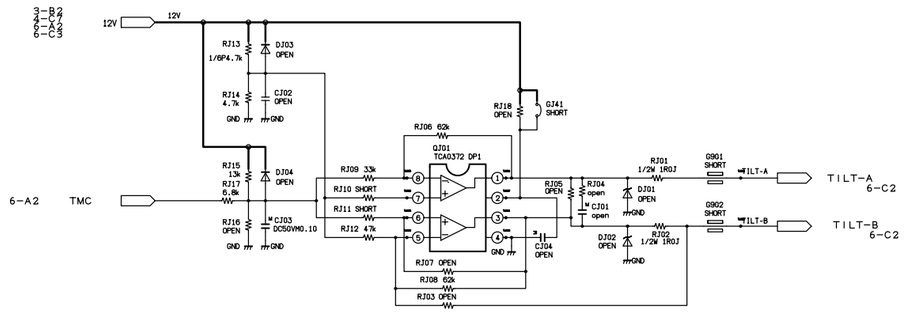


32AF43
POWER/DEF - POWER
[SHEET-4/6]

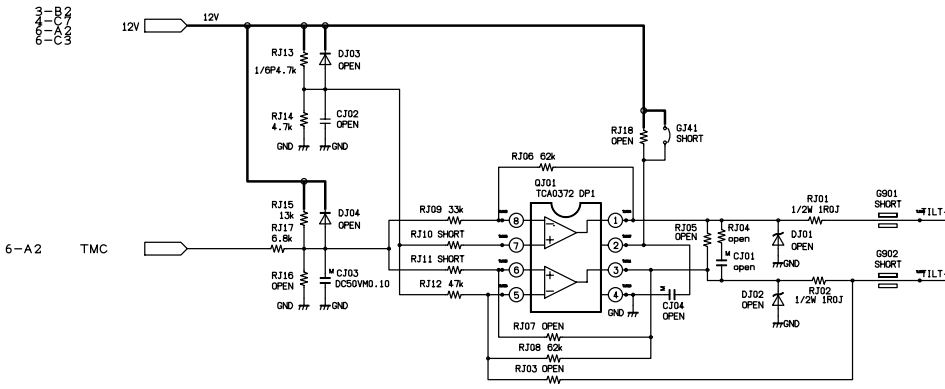

AC INPUT
DEG COIL
125V10A 23144518
F801
T801
TRF3239AF/AQ
T802 OPEN
GJ80 SHORT
GJ81 SHORT
GJ84 SHORT
GJ85 SHORT
P803
PLUG 3P_5mm
P804
PLUG 3P_5mm
C801
AC275V0.22u
C802 AC275V0.1u
TPW1571AT/1572AM
T840
1N4004A
D842
D840
D841
D843
C840
25V220
D845
1SS133/1SS120-7
DC12V
SR81
P810
2P 5mm
SHORT
G808
R808
RZ92P2C1R5M3/M2/M
D855
DC12V
SR83
D801A
C805
0.01(AC250V)
TLN3481AH/AD
125V 4A
F802
D801
D3SB60/RBV-406M
C806
0.01(AC250V)
C810
200V470u
L806
R810 10W0.82
GND1
400V(P)
300V
0V
11μs
6μs
STR-G6024
DRAIN
SOUCE
GND
V IN
OCP.F/B
D801A
C818
1250VH2200p
TEM2011AA
TEM2011AW
TEM2011
L815
L816
C817
2kV R1/B1 330
R829
R820
R818
5W15
R835
1R0.10 1R0.10
1/2R470
C823
470p
C808
25V220
D815
OPEN
FR105-FL/EU2A
D806
C821
500V
R470
R821
1/2R4.7
R861
1R22k
D807
1SS133
1SS120-7
C829
50V1500p
R814
1/6P1.2k
R823
1/6P1.2k
D805
1SS133
1SS120-7
IC802
IPW5525AB
3V
0V
C890
500VB 470p
F804
125V 4A
L890
D890
RU4Z LF-L1
C897
16V2200
C886
500VB 470p
L886
D885
R883
1R0.12
FR105-FL
RU3AM LF-C1
C893
L883
D883
C884
200V220u
Q862
PS2581L1(D)
TLP421F(GR)
C830
0.022u
D881
OPEN
1/2R470
R883
D882
RD2.7ESAB2
Q883
SE130N
R884
1/6P470
C891
63V0.10
R891
1/6P1k
1SS133/1SS120-7
1/2R3.3k
R815
D811
250V2200pF
C813
250V1000pF
C811
250V1000pF
C812
TEM2011AA
TEM2011AW
TEM2011
G845



32AF43
POWER/DEF - POWER
[SHEET-4/6]



32AF43
POWER/DEF - TILT
[SHEET-5/6]


3-B2
4-C2
5-A2
6-C3
12V
12V
RJ13
1/6P4.7k
DJ03
OPEN
RJ14
4.7k
CJ02
OPEN
GND
GND
RJ18
OPEN
GJ41
SHORT
RJ06 62k
QJ01
TCA0372 DP1
RJ15
13k
DJ04
OPEN
RJ17
6.8k
RJ16
OPEN
CJ03
DCSOVM0.10
GND
GND
6-A2
TMC
RJ09 33k
RJ10 SHORT
RJ11 SHORT
RJ12 47k
RJ05
OPEN
RJ04
open
CJ01
open
DJ01
OPEN
GND
RJ01
1/2W 1ROJ
G901
SHORT
G902
SHORT
CJ04
OPEN
DJ02
OPEN
RJ02
1/2W 1ROJ
GND
RJ07 OPEN
RJ08 62k
RJ03 OPEN

TILT-A TILT-A 6-C2

TILT-B TILT-B 6-C2

A

B

C

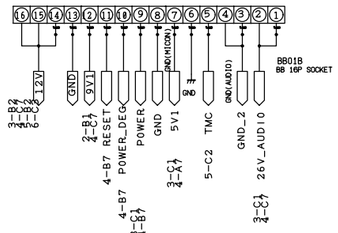
D

E

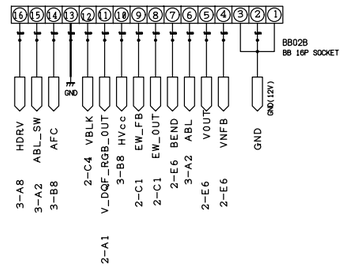
F

32AF43
POWER/DEF - TILT
[SHEET-5/6]

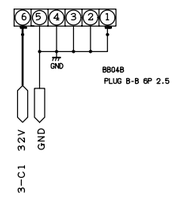
To SIGNAL



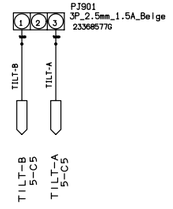
To SIGNAL

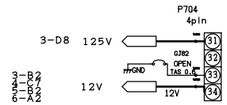


To SIGNAL

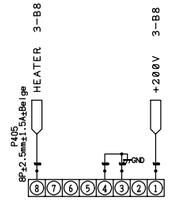


To LJ901

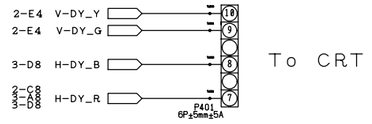




To CRT. D

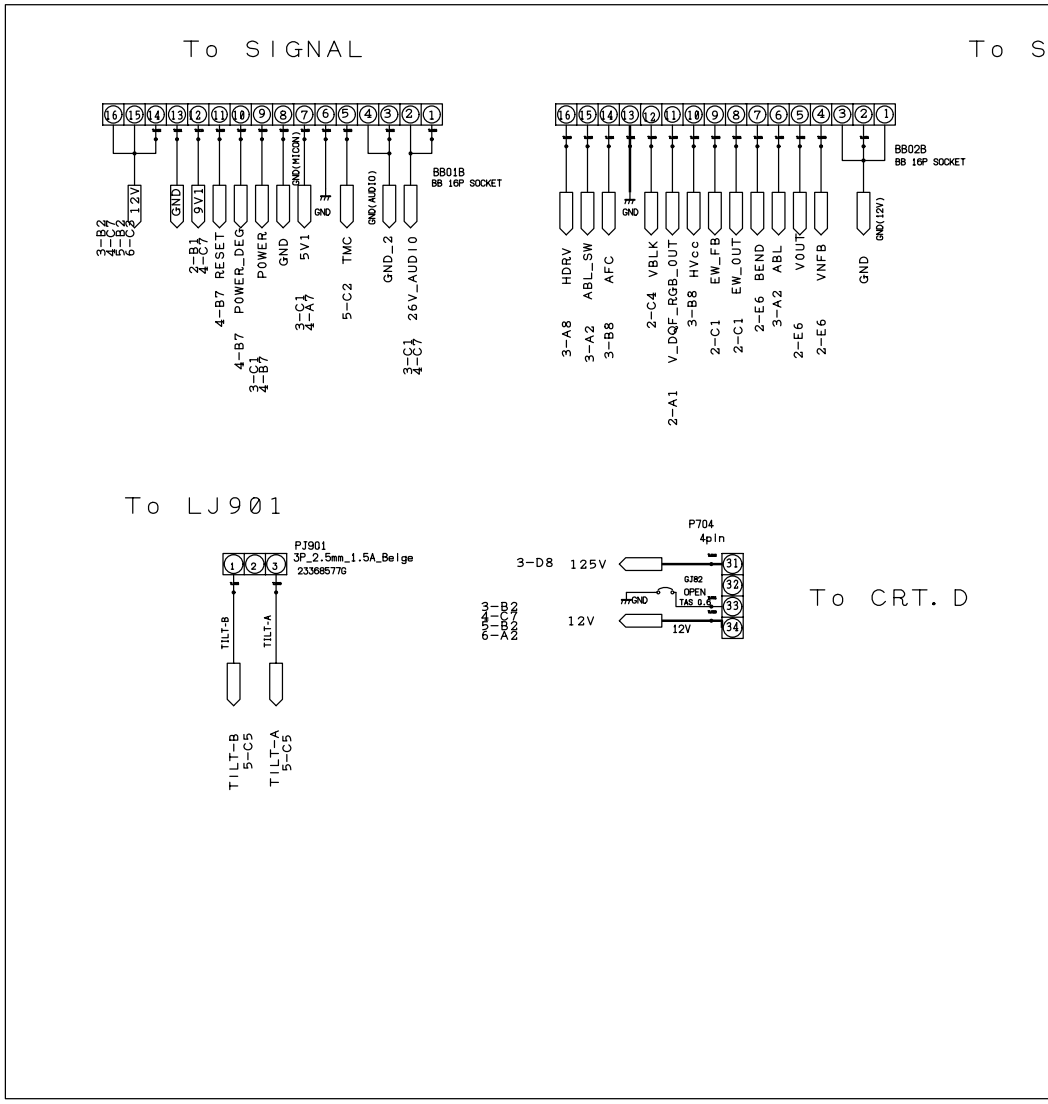


To CRT. D

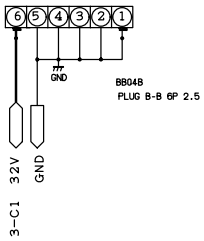


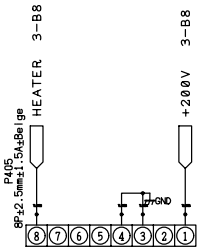
To CRT

32AF43
POWER/DEF - BANKAN
[SHEET-6/6]

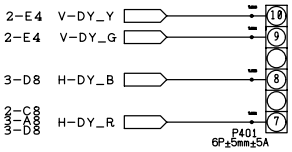

To SIGNAL
To S
BB01B
BB 16P SOCKET
12V
GND
9V1
RESET
POWER_DEG
POWER
GND
5V1
GND
TMC
GND(AUDIO)
GND_2
26V_AUDIO
GND(MICOM)
BB02B
BB 16P SOCKET
HDRV
ABL_SW
AFC
GND
VBLK
V_DQF_RGB_OUT
HVcc
EW_FB
EW_OUT
BEND
ABL
VOUT
VNFB
GND
GND(12V)
To LJ901
PJ901
3P_2.5mm_1.5A_Beige
23368577G
TILT-B
TILT-A
TILT-B
5-C5
TILT-A
5-C5
P704
4pin
3-D8
125V
GND
12V
12V
GJ82
OPEN
To CRT. D

SIGNAL To SIGNAL





To CRT. D



To CRT

32AF43
POWER/DEF - BANKAN
[SHEET-6/6]

V-DEF_DPC
Sheet2

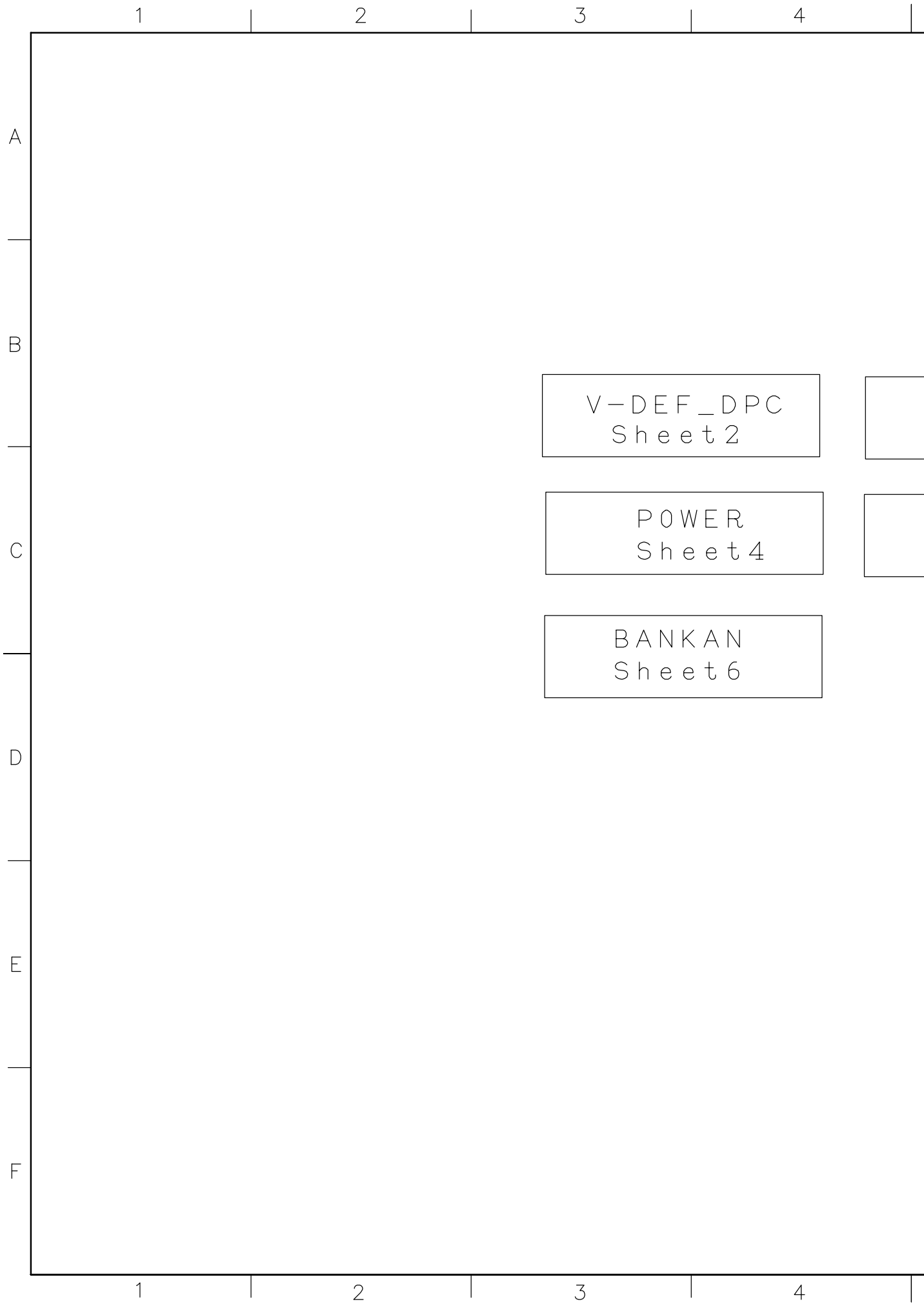
H-DEF
Sheet3

POWER
Sheet4

TILT
Sheet5

BANKAN
Sheet6

32AF53
POWER/DEF - BLOCK DIAGRAM
[SHEET-1/6]


1
2
3
4
A
B
C
D
E
F
V-DEF_DPC
Sheet2
POWER
Sheet4
BANKAN
Sheet6

5 6 7 8

A

B

H-DEF
Sheet3

TILT
Sheet5

C

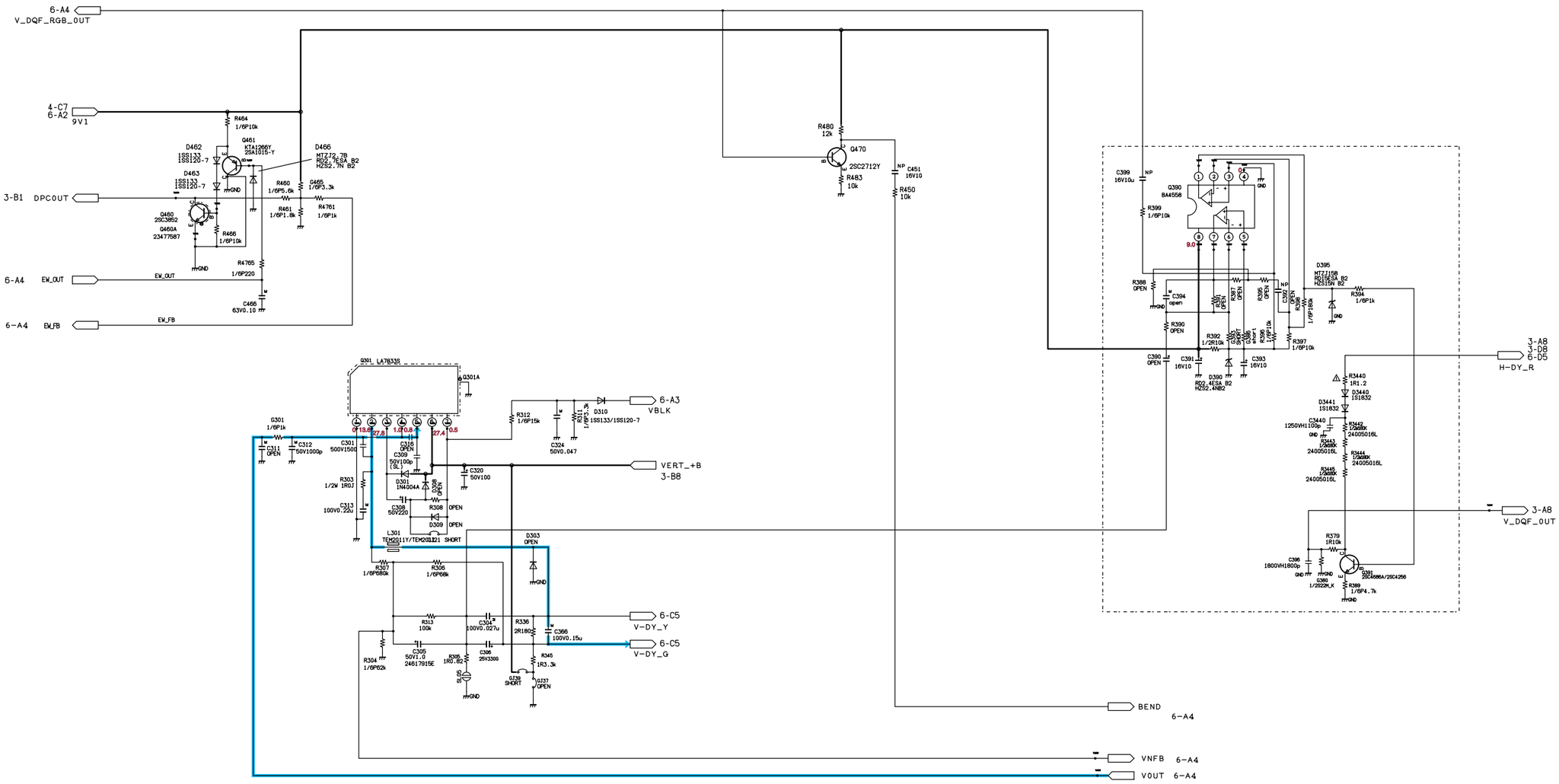
D

E

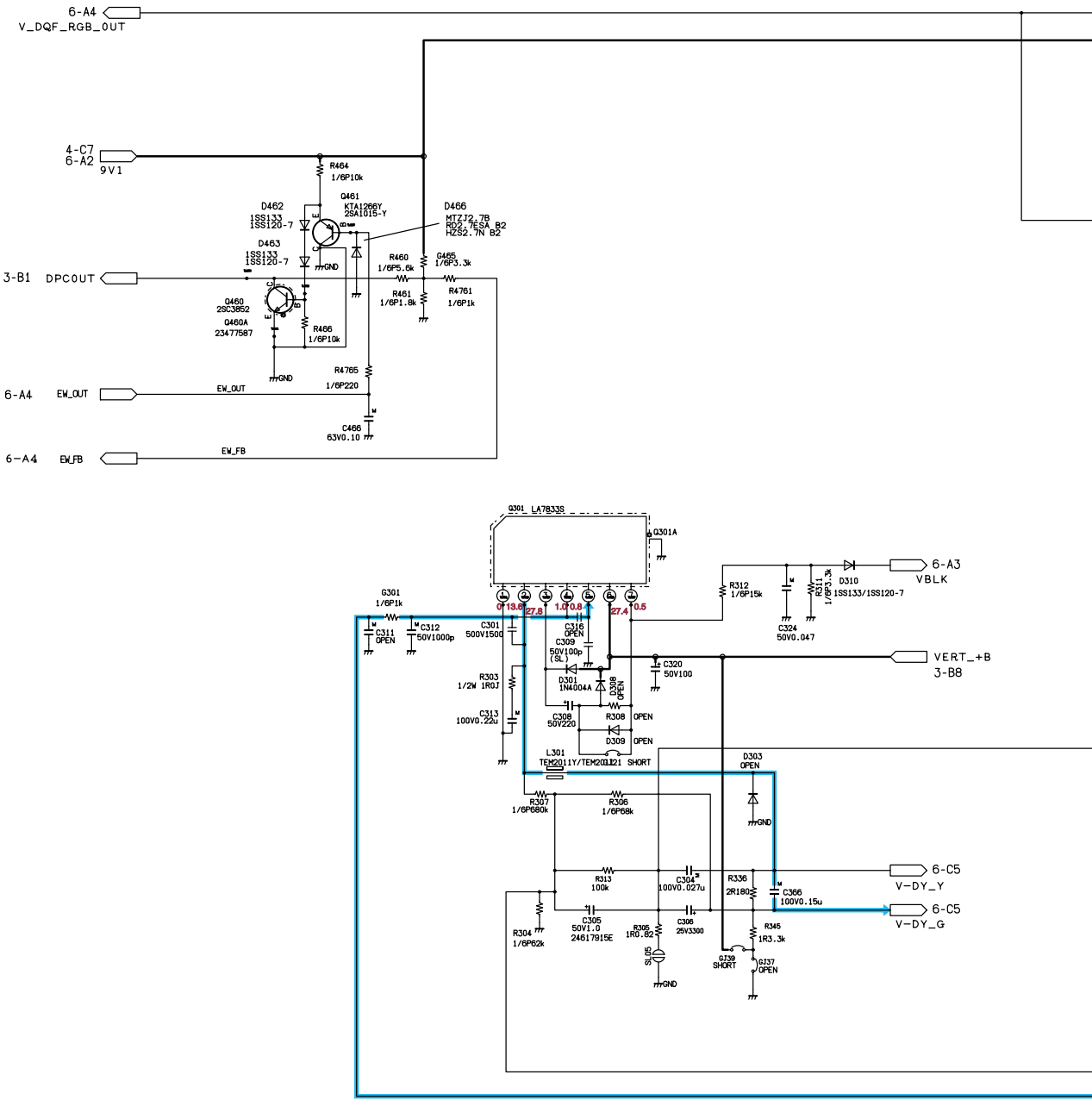
F

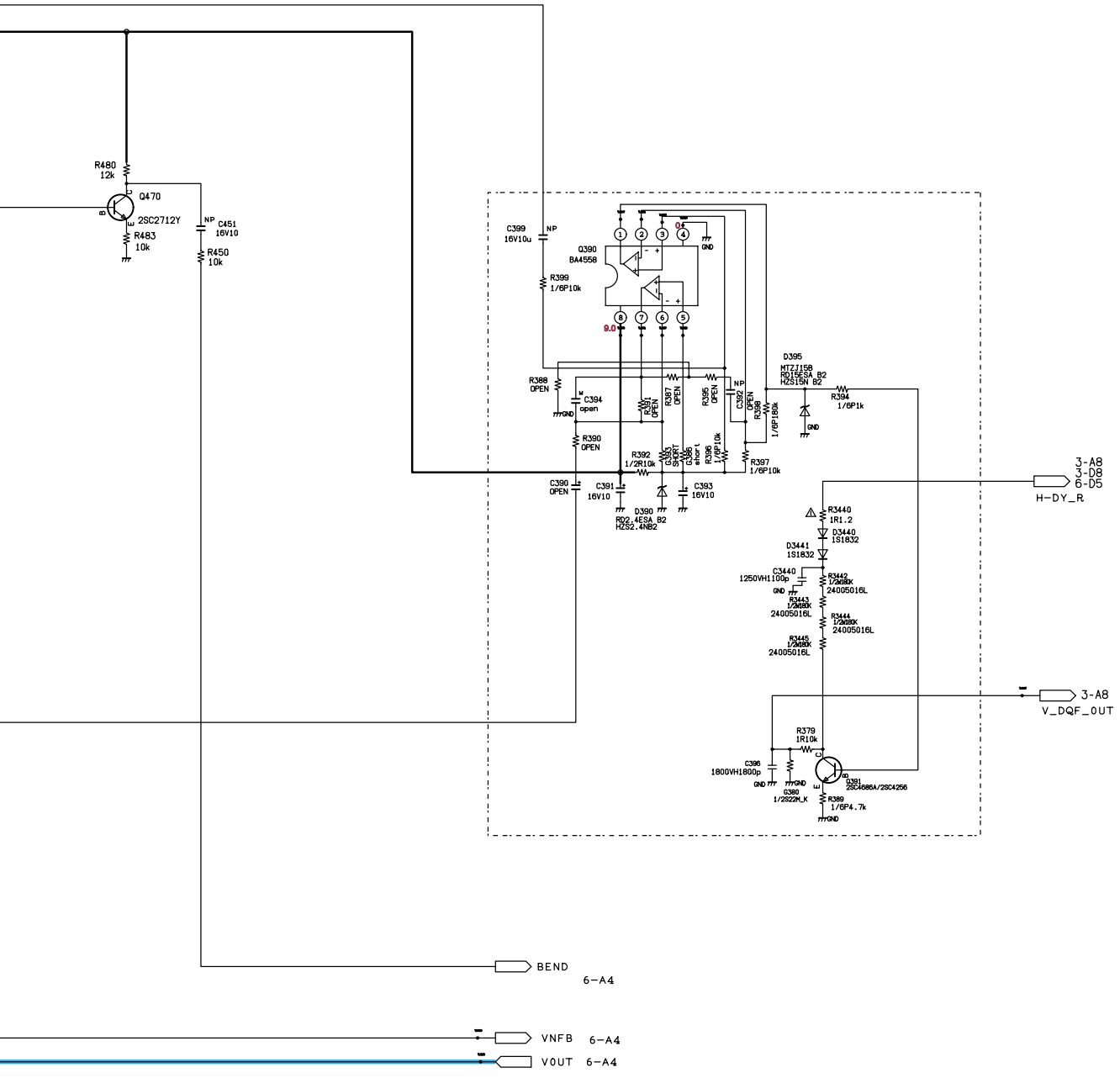
32AF53
POWER/DEF - BLOCK DIAGRAM
[SHEET-1/6]

5 6 7 8



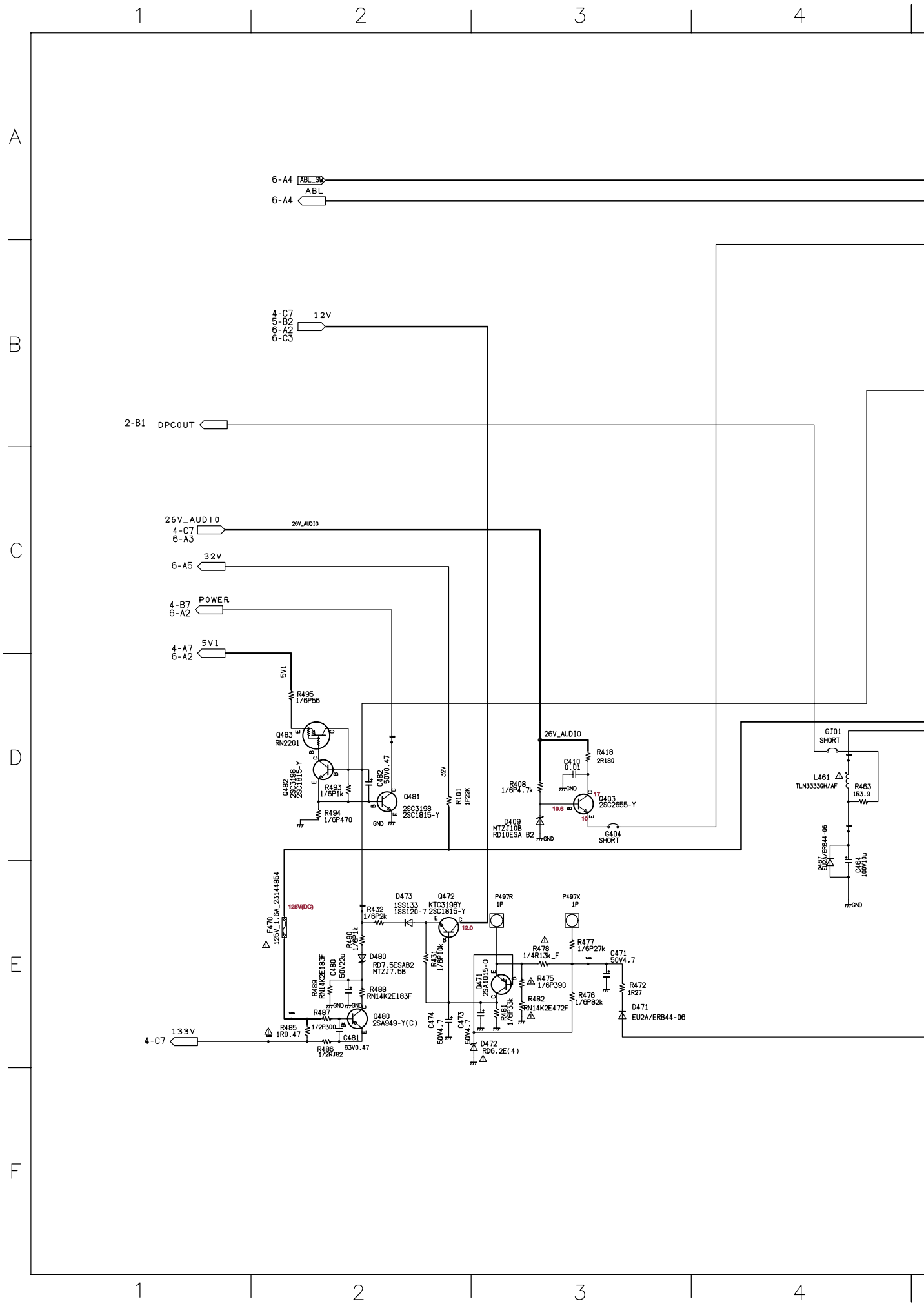
32AF53
POWER/DEF - V-DEF_DPC
[SHEET-2/6]

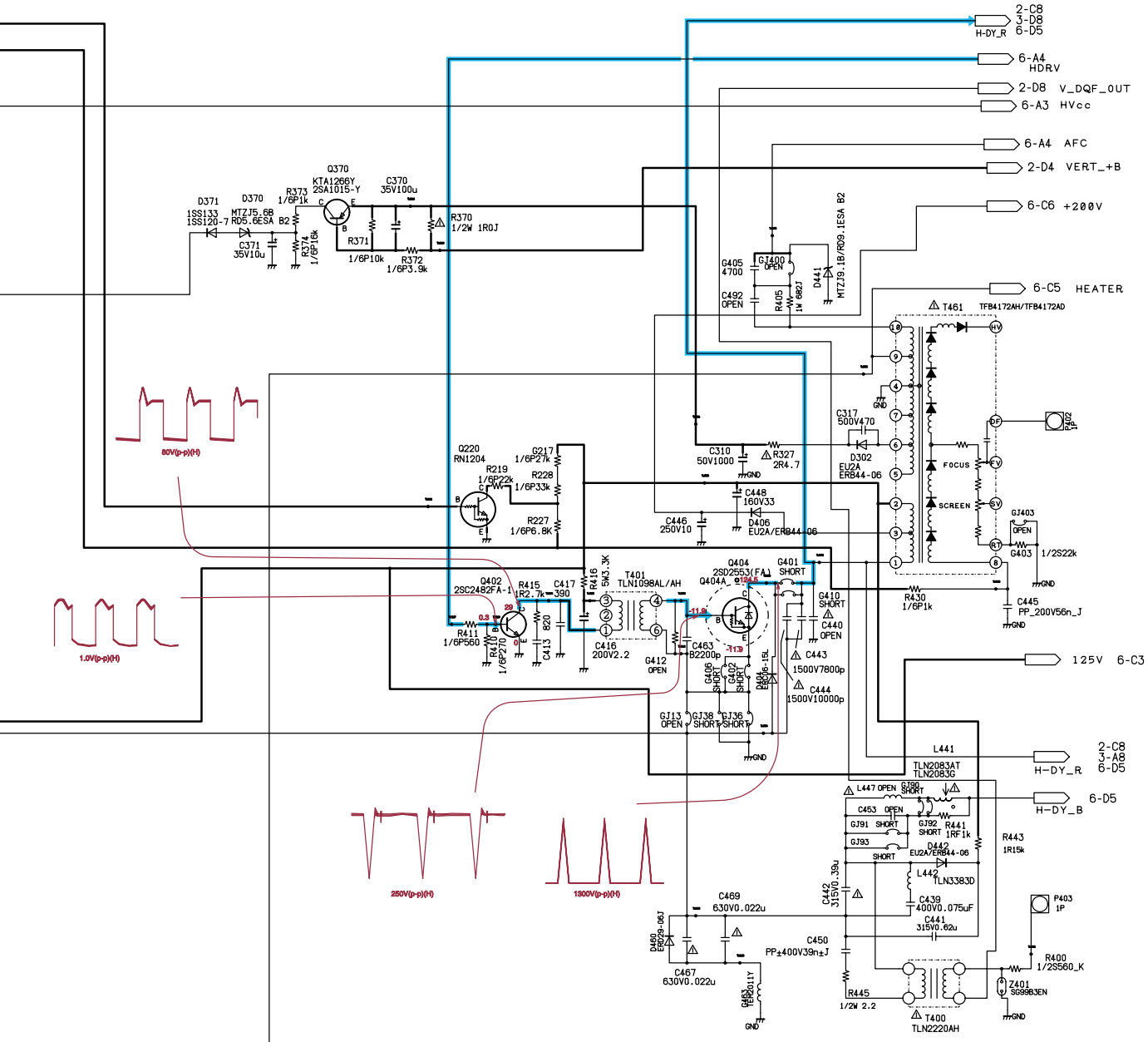

6-A4
V_DQF_RGB_OUT
4-C7
6-A2
9V1
R464
1/6P10k
D462
1SS133
1SS120-7
Q461
KTA1266Y
2SA1015-Y
D466
MTZJ2.7B
RD2.7ESA B2
HZS2.7N B2
D463
1SS133
1SS120-7
GND
R460
1/6P5.6k
G465
1/6P3.3k
3-B1
DPCOUT
R461
1/6P1.8k
R4761
1/6P1k
Q460
2SC3852
Q460A
23477587
R466
1/6P10k
GND
R4765
1/6P220
6-A4
EW_OUT
EW_OUT
C466
63V0.10
6-A4
EW_FB
EW_FB
Q301 LA78338
Q301A
G301
1/6P1k
C311
OPEN
C312
50V1000p
C301
500V1500
C316
OPEN
C309
50V100p
(SL)
D301
1N4004A
D308
OPEN
R303
1/2W 1R0J
C313
100V0.22u
C308
50V220
R308
OPEN
D309
OPEN
L301
TEM2011Y/TEM2012121 SHORT
R307
1/6P680k
R306
1/6P68k
D303
OPEN
GND
R312
1/6P15k
C324
50V0.047
R311
1/6P3.3k
D310
1SS133/1SS120-7
6-A3
VBLK
C320
50V100
VERT_+B
3-B8
R313
100k
C304
100V0.027u
R336
2R180
C366
100V0.15u
6-C5
V-DY_Y
6-C5
V-DY_G
R304
1/6P62k
C305
50V1.0
24617915E
R305
1R0.82
C306
25V3300
SL05
GJ39
SHORT
GJ37
OPEN
R345
1R3.3k
GND
0
13.8
27.8
1.0
0.8
27.4
0.5



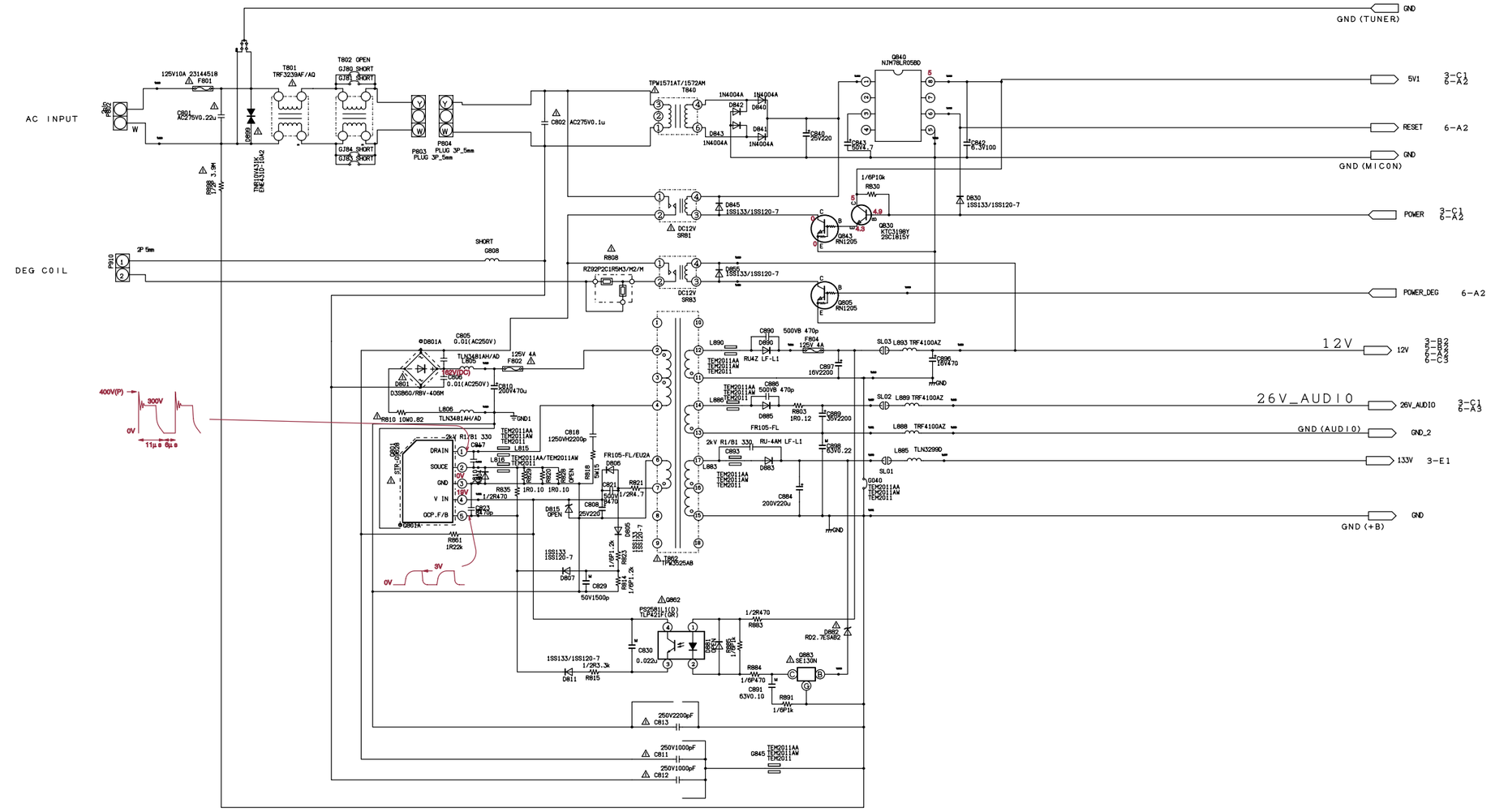
32AF53
POWER/DEF - V-DEF_DPC
[SHEET-2/6]

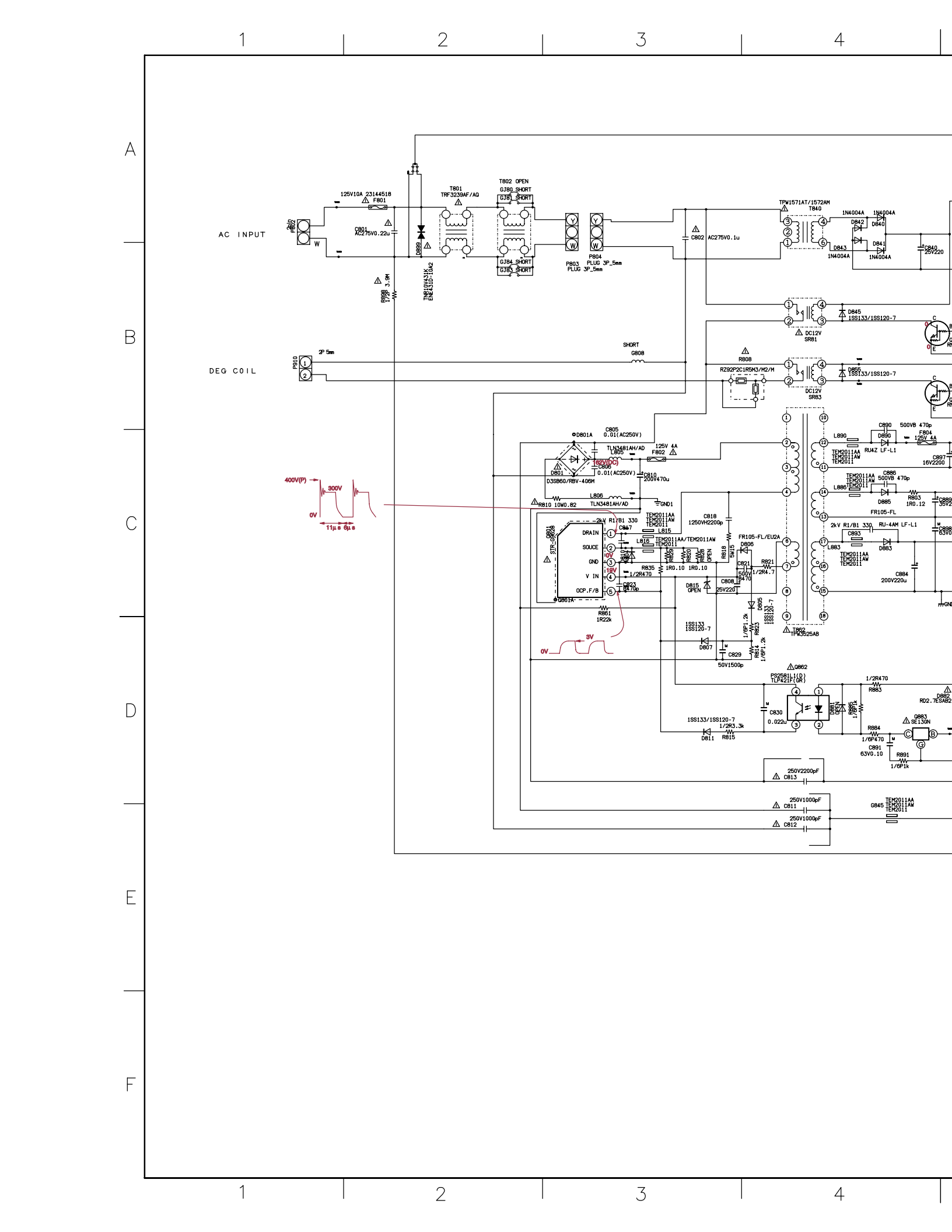
32AF53
POWER/DEF - H-DEF
[SHEET-3/6]

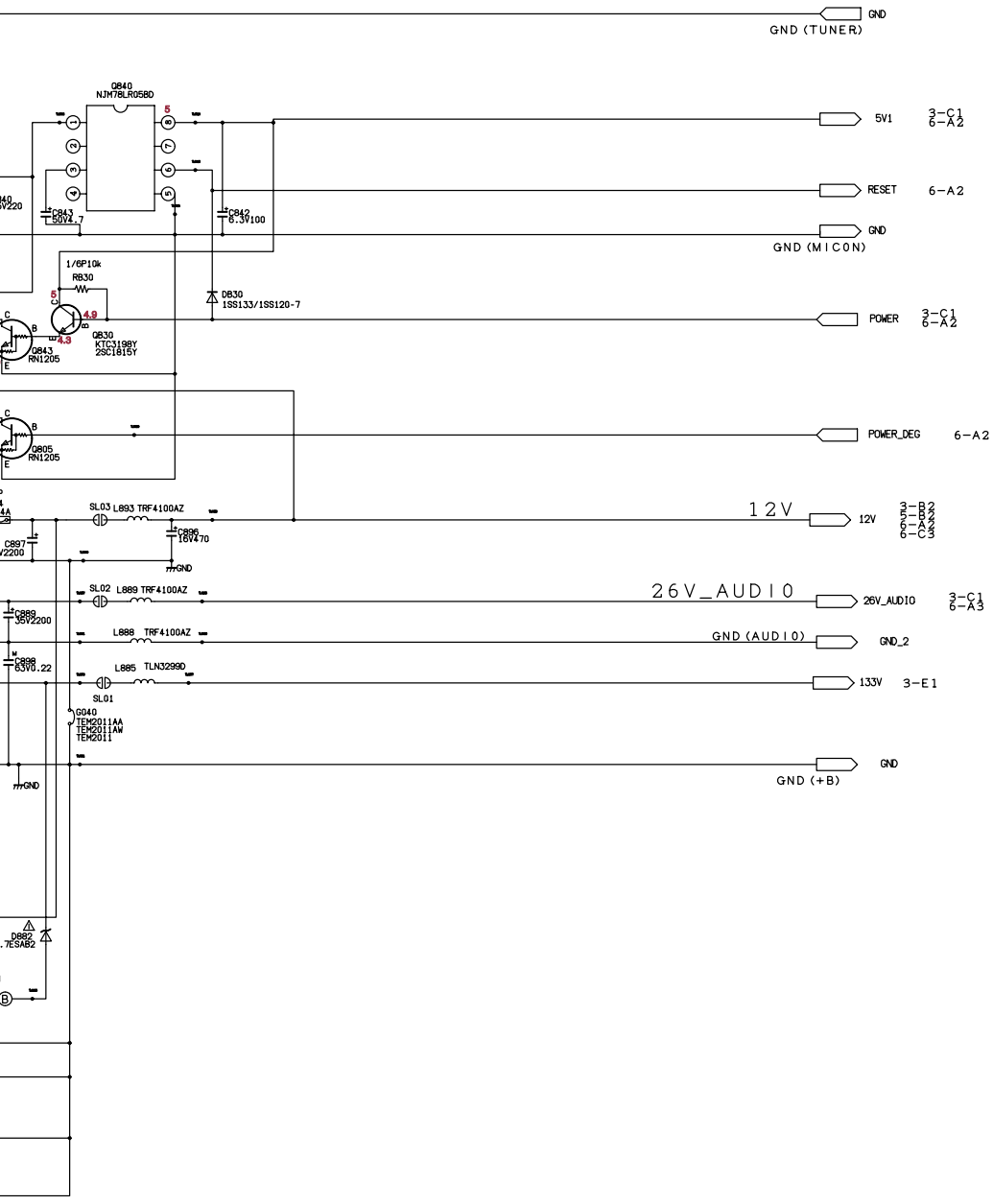

6-A4 ABL_SW
ABL
6-A4
4-C7
5-B2
6-A2
6-C3
12V
2-B1 DPCOUT
26V_AUDIO
4-C7
6-A3
26V_AUDIO
32V
6-A5
4-B7
6-A2
POWER
4-A7
6-A2
5V1
5V1
R495
1/6P56
Q483
RN2201
Q482
2SC3198
2SC1815-Y
R493
1/6P1k
R494
1/6P470
C482
50V0.47
Q481
2SC3198
2SC1815-Y
GND
32V
R101
1P22k
26V_AUDIO
R418
2R180
C410
0.01
R408
1/6P4.7k
GND
17
Q403
2SC2655-Y
10.8
10
D409
MTZJ10B
RD10ESA B2
GND
G404
SHORT
GJ01
SHORT
L461
TLN3333GH/AF
R463
1R3.9
D487
EU2/ERB44-06
C464
100V10u
GND
F470
125V/1.6A_23144854
125V(DC)
R432
1/6P2k
D473
1SS133
1SS120-7
Q472
KTC3198Y
2SC1815-Y
12.0
P497R
1P
P497X
1P
R490
1/6P1k
D480
RD7.5ESAB2
MTZJ7.5B
C480
50V22u
R489
RN14K2E183F
R488
RN14K2E183F
GND
GND
R487
1/2P300
Q480
2SA949-Y(C)
R485
1R0.47
C481
63V0.47
R486
1/2RJ82
133V
4-C7
R431
1/6P10k
Q471
2SA1015-O
C474
50V4.7
C473
50V4.7
R433
1/6P33k
D472
RD6.2E(4)
R478
1/4R13k_F
R475
1/6P390
R482
RN14K2E472F
R477
1/6P27k
C471
50V4.7
R476
1/6P82k
R472
1R27
D471
EU2A/ERB44-06



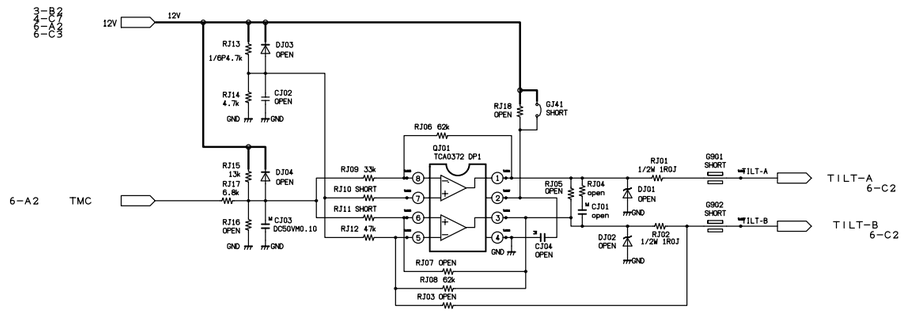
32AF53
POWER/DEF - H-DEF
[SHEET-3/6]


AC INPUT
DEG COIL
GND
GND (TUNER)
5V1
3-C1
6-A2
RESET
6-A2
GND (MICON)
POWER
3-C1
6-A2
POWER_DEG
6-A2
12V
12V
3-B2
5-B2
5-A2
6-C3
26V_AUDIO
26V_AUDIO
3-C1
6-A3
GND (AUDIO)
GND_2
133V
3-E1
GND (+B)
GND
400V(P)
300V
0V
11μs
6μs
3V
0V
T801
TRF3238AF/AQ
T802 OPEN
GJ80 SHORT
GJ81 SHORT
GJ84 SHORT
GJ85 SHORT
T840
TPW1571AT/1572AM
T862
TPW3525AB
Q840
NJM78LR05BD
Q862
PS2581L1(D)
TLP421F(GR)
Q863
2SC1815Y
Q830
KTC3198Y
2SC1815Y
Q843
RN1205
Q865
RN1205
Q883
2SC1815N
D801
D3SB60/R8V-406M
IC801
STR-G6038
SHORT
G808
R808
RZ92P2C1R5M3/M2/M
DC12V
SR81
DC12V
SR83
1SS133/1SS120-7
1/6P1Gk
RB30
4.9
4.3
0
0
0
1/2R470
R883
RD2.7ESAB2
1/6P470
R884
1/6P1k
R891
C891
63V0.1Ω
C830
0.022μ
1/2R3.3k
R815
250V2200pF
C813
250V1000pF
C811
250V1000pF
C812
TEM2011AA
TEM2011AW
TEM2011
G845
C829
50V1500p
C818
1250V2200p
C810
200V470u
C884
200V220u
C889
25V2200
C897
16V2200
C890
16V470
C898
63V0.22
C840
25V220
C842
50V4.7
C841
6.3V100
C847
50V4.7
C821
50V470
C808
25V220
C803
0.01
C805
0.01(AC250V)
C806
0.01(AC250V)
C847
C835
C836
C837
C838
C839
C886
500VB 470p
C890
500VB 470p
C893
F804
125V 4A
F802
125V 4A
F801
125V10A 23144518
C801
AC275V0.22u
C802
AC275V0.1u
R801
1.5M
R810
10W0.82
R835
1R0.10
1R0.10
R861
1R22k
R803
1R0.12
R818
5K15
R821
1/2R4.7
R823
1/6P1.2k
R824
1/6P1.2k
R825
1/6P1.2k
R826
1/6P1.2k
R827
1/6P1.2k
R828
1/6P1.2k
R829
OPEN
R830
OPEN
R831
OPEN
R832
OPEN
R833
OPEN
R834
OPEN
D807
1SS133
1SS120-7
D811
1SS133/1SS120-7
D815
OPEN
D805
1SS133
1SS120-7
D845
1SS133/1SS120-7
D830
1SS133/1SS120-7
D865
1SS133/1SS120-7
D885
FR105-FL
D883
FR105-FL/EU2A
D806
L890
L889 TRF4100AZ
L888 TRF4100AZ
L885 TLN3299D
L883
L886
L815
L816
SL01
SL02
SL03
TEM2011AA/TEM2011AW
RU4Z LF-L1
RU-4AM LF-L1
TLN3481AH/AD
L805
L806
TLN3481AH/AD
P910
2P 5mm
P801
P803
PLUG 3P_5mm
P804
PLUG 3P_5mm
CN802
W
CN801
DRAIN
SOURCE
GND
V IN
OCP,F/B
2kV R1/B1 330
1/2R470
DB01A
DB01
GND1
GND2
mGND
32AF53
POWER/DEF - POWER
[SHEET-4/6]

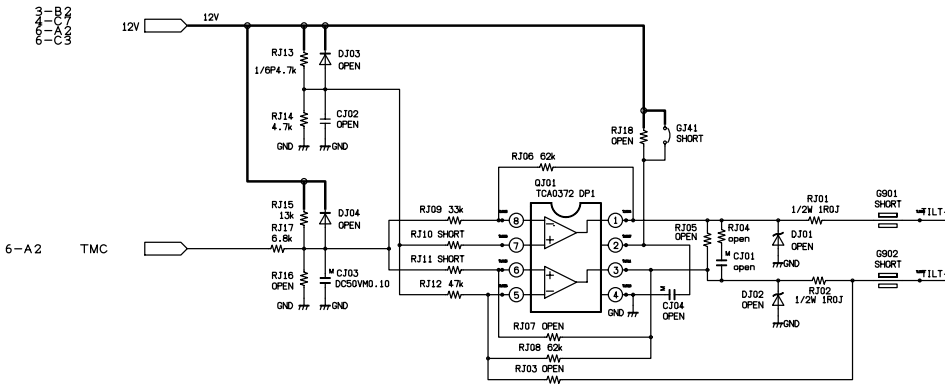

AC INPUT
DEG COIL
125V10A 23144518
F801
T801
TRF3239AF/AQ
T802 OPEN
GJ80 SHORT
GJ81 SHORT
GJ84 SHORT
GJ85 SHORT
P804
PLUG 3P_5mm
P803
PLUG 3P_5mm
C801
AC275V0.22u
C802 AC275V0.1u
TPW1571AT/1572AM
T840
1N4004A
D842
D840
D841
D843
C840
25V220
D845
1SS133/1SS120-7
DC12V
SR81
SHORT
G808
2P 5mm
P810
R808
RZ92P2C1R5M3/M2/M
D855
DC12V
SR83
D801A
C805
0.01(AC250V)
TLN3481AH/AD
L805
125V 4A
F802
162V(DC)
C806
0.01(AC250V)
C810
200V470u
D801
D3SB60/RBV-406M
L806
R810 10W0.82
GND1
400V(P)
300V
0V
11μs 6μs
2kV R1/B1 330
C817
DRAIN
SOUCE
GND
V IN
OCP.F/B
STR-G6653
Q801A
L815
L816
TEM2011AA/TEM2011AW
TEM2011
R829
R820
R835 1R0.10 1R0.10
1/2R470
C823
470p
C818
1250VH2200p
FR105-FL/EU2A
D806
R818
5W15
C821
500V
R470
R821
1/2R4.7
D815
OPEN
C808
25V220
R861
1R22k
18V
3V
0V
1SS133
1SS120-7
D807
C829
50V1500p
R814
1/6P1.2k
R823
1/6P1.2k
D805
1SS133
1SS120-7
IC802
PM5525AB
C890
500VB 470p
D890
RU4Z LF-L1
F804
125V 4A
L890
C897
16V2200
C886
500VB 470p
D885
RU4Z LF-L1
R803
1R0.12
FR105-FL
2kV R1/B1 330
RU-4AM LF-L1
C893
D883
C884
200V220u
L883
L886
Q862
PS2581L1(D)
TLP421F(GR)
C830
0.022u
1/2R470
R883
D882
RD2.7ESAB2
Q883
SE130N
R884
1/6P470
C891
63V0.10
R891
1/6P1k
D881
OPEN
1/6P1k
1SS133/1SS120-7
1/2R3.3k
D811
R815
250V2200pF
C813
250V1000pF
C811
250V1000pF
C812
TEM2011AA
TEM2011AW
TEM2011
G845



32AF53
POWER/DEF - POWER
[SHEET-4/6]



32AF53
POWER/DEF - TILT
[SHEET-5/6]


3-B2
4-C2
5-A2
6-C3
12V
12V
RJ13
1/6P4.7k
DJ03
OPEN
RJ14
4.7k
CJ02
OPEN
GND
GND
RJ18
OPEN
GJ41
SHORT
RJ06 62k
QJ01
TCA0372 DP1
RJ15
13k
DJ04
OPEN
RJ17
6.8k
6-A2
TMC
RJ09 33k
RJ10 SHORT
RJ11 SHORT
RJ12 47k
RJ16
OPEN
CJ03
DCSOVM0.10
GND
GND
RJ05
OPEN
RJ04
open
CJ01
open
DJ01
OPEN
GND
RJ01
1/2W 1R0J
G901
SHORT
G902
SHORT
DJ02
OPEN
RJ02
1/2W 1R0J
GND
CJ04
OPEN
GND
RJ07 OPEN
RJ08 62k
RJ03 OPEN

A

B

C

D

E

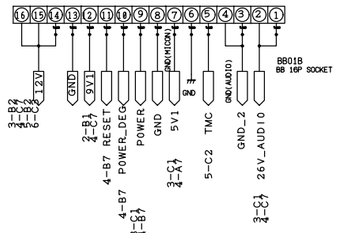
F

TILT-A TILT-A 6-C2

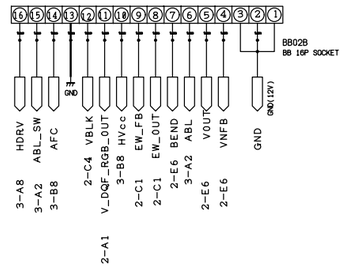
TILT-B TILT-B 6-C2

32AF53
POWER/DEF - TILT
[SHEET-5/6]

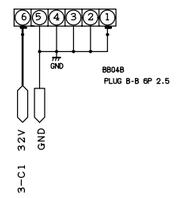
To SIGNAL



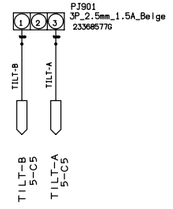
To SIGNAL

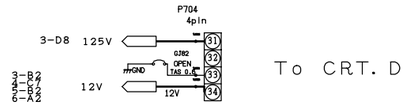


To SIGNAL

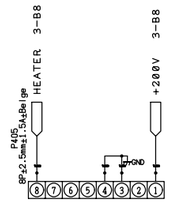


To LJ901

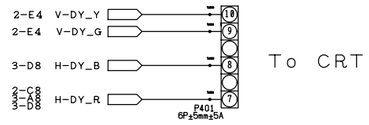




To CRT. D

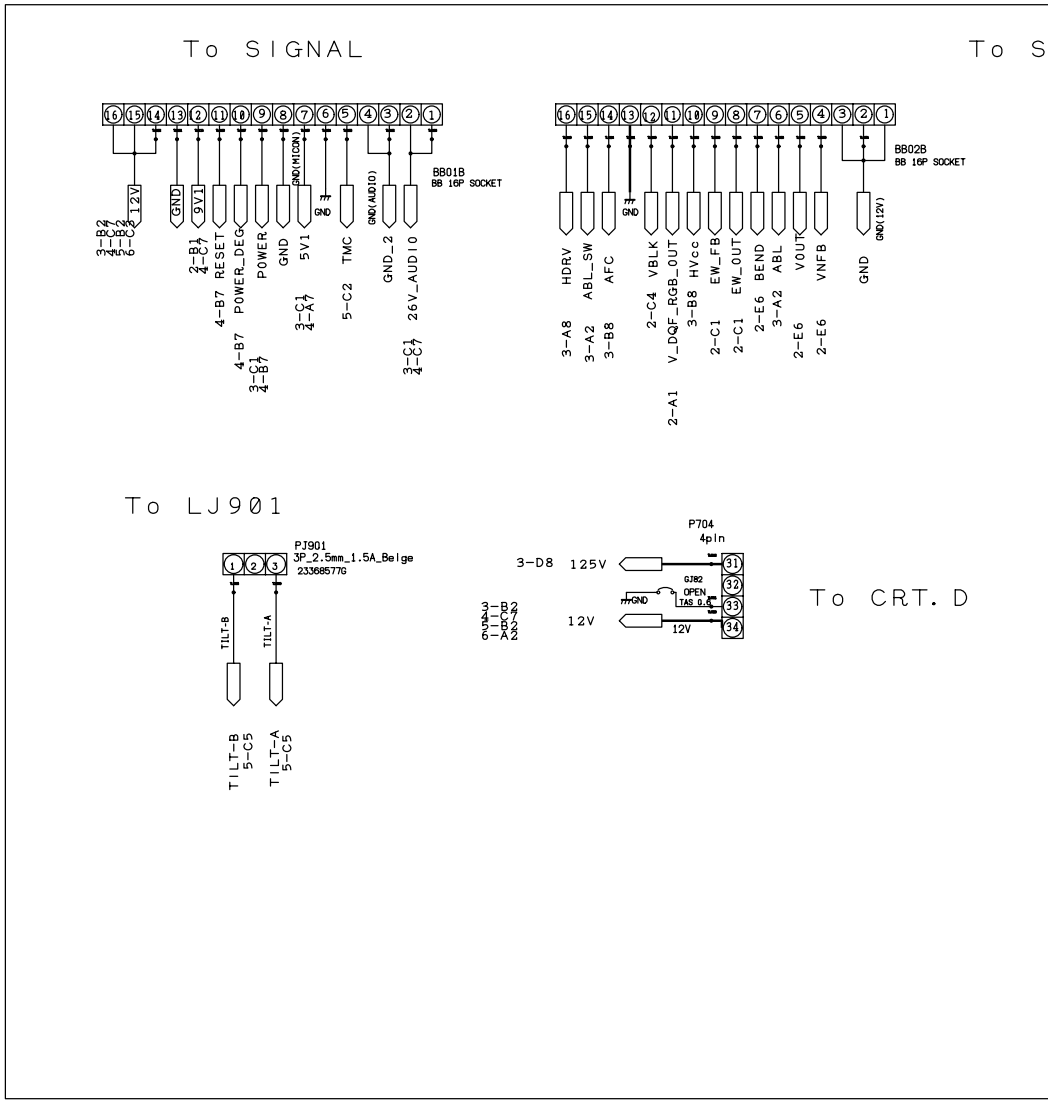


To CRT. D

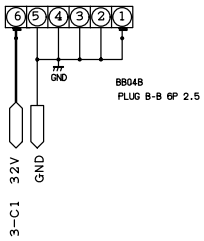


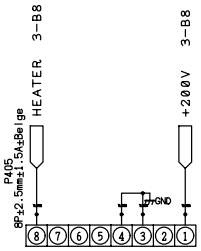
To CRT

32AF53
POWER/DEF - BANKAN
[SHEET-6/6]

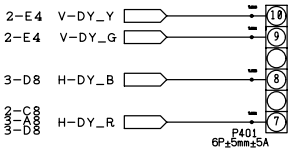

To SIGNAL
To S
BB01B
BB 16P SOCKET
12V
GND
9V1
RESET
POWER_DEG
POWER
GND
5V1
GND
TMC
GND(AUDIO)
GND_2
26V_AUDIO
GND(MICOM)
BB02B
BB 16P SOCKET
HDRV
ABL_SW
AFC
GND
VBLK
V_DQF_RGB_OUT
HVcc
EW_FB
EW_OUT
BEND
ABL
VOUT
VNFB
GND
GND(12V)
To LJ901
PJ901
3P_2.5mm_1.5A_Beige
23368577G
TILT-B
TILT-A
TILT-B
5-C5
TILT-A
5-C5
P704
4pin
3-D8
125V
GND
12V
12V
GJ82
OPEN
To CRT. D

SIGNAL To SIGNAL



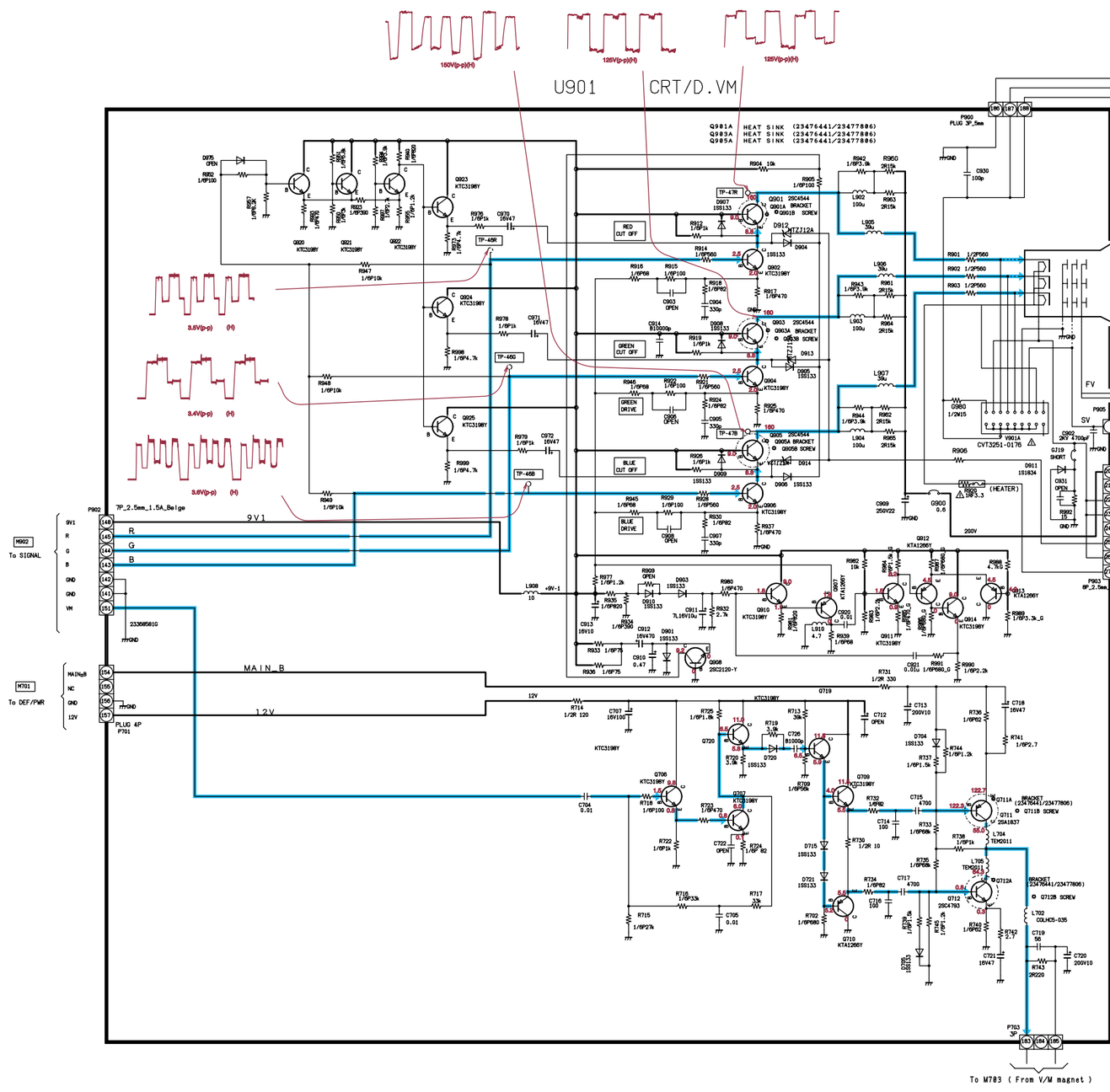


To CRT. D

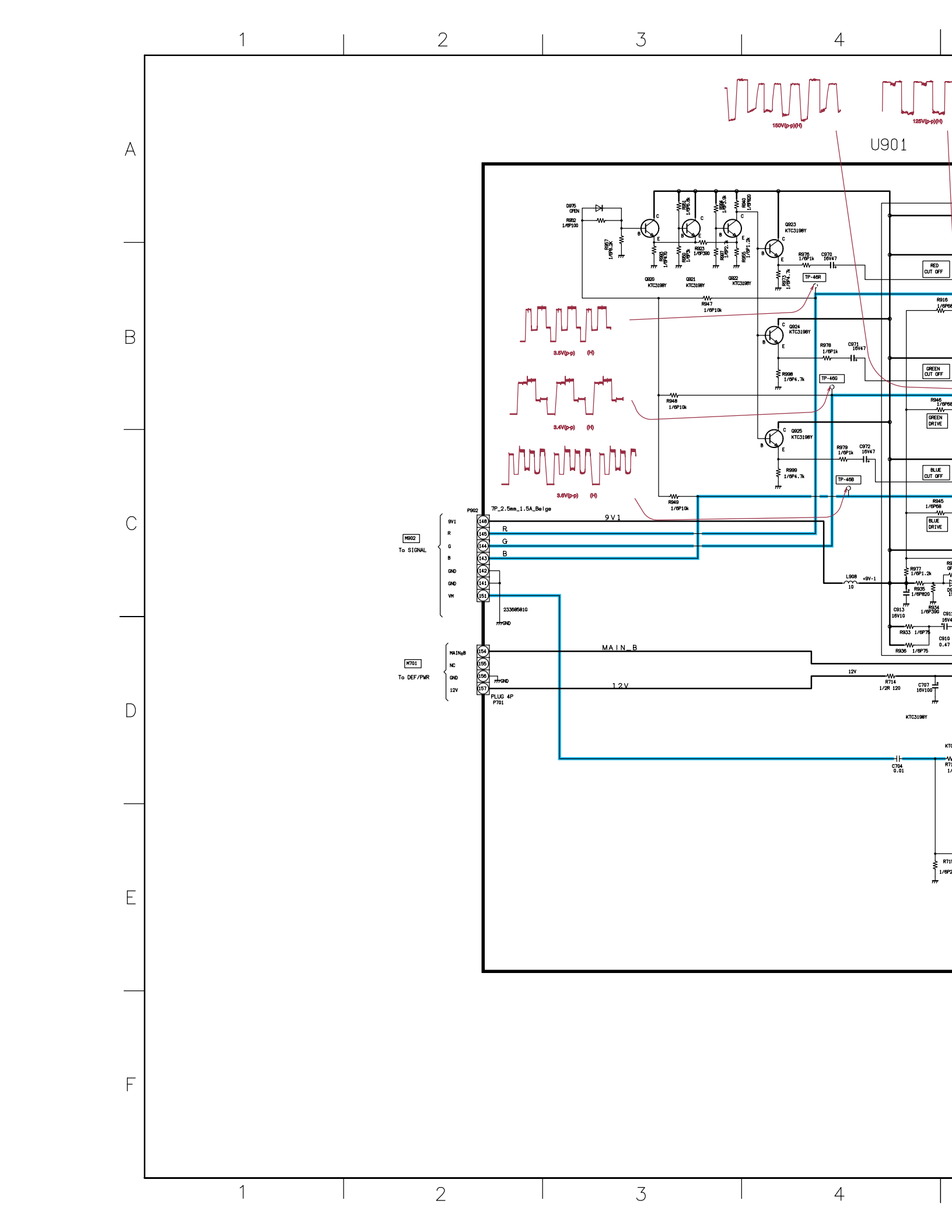


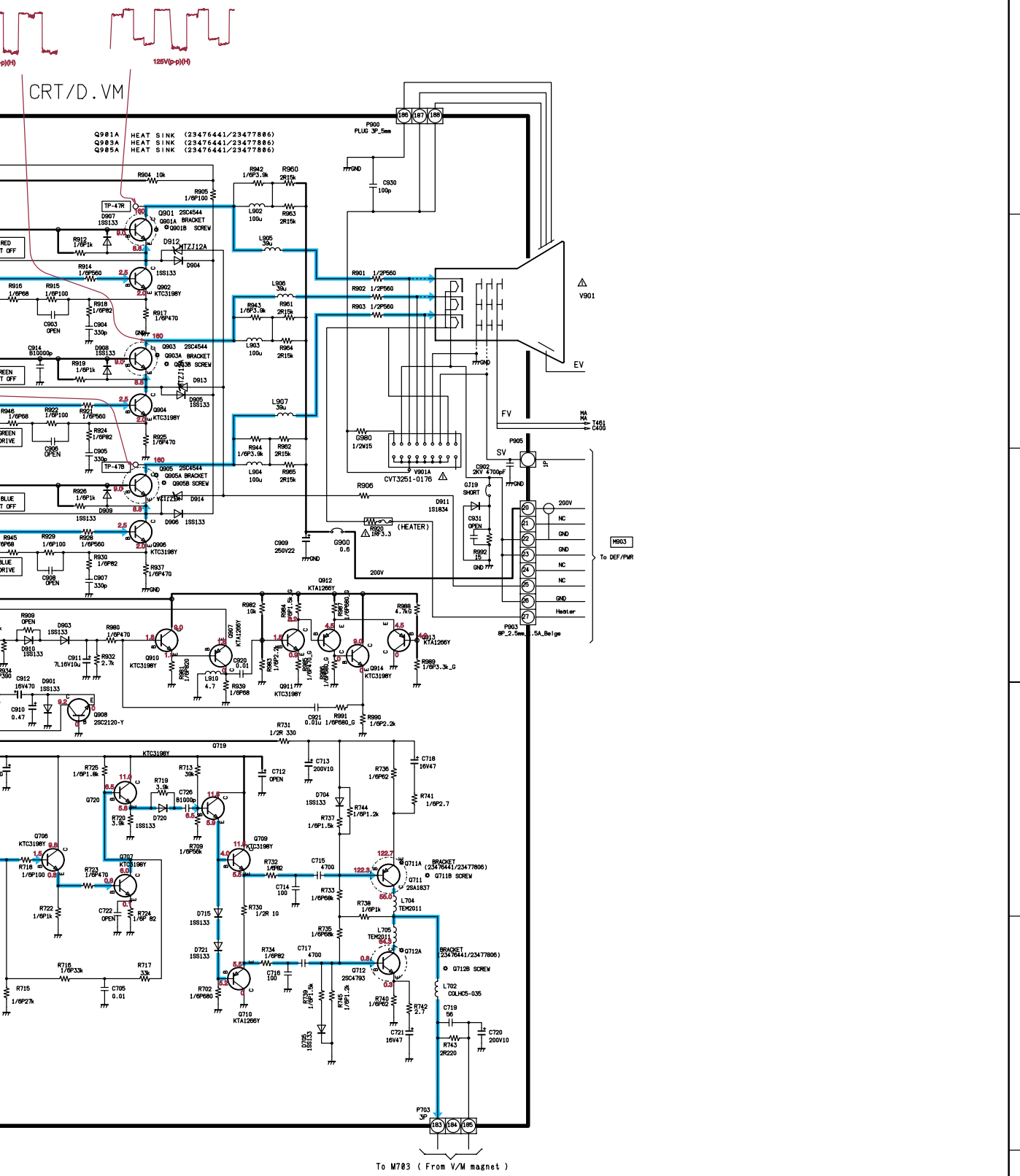
To CRT

32AF53
POWER/DEF - BANKAN
[SHEET-6/6]

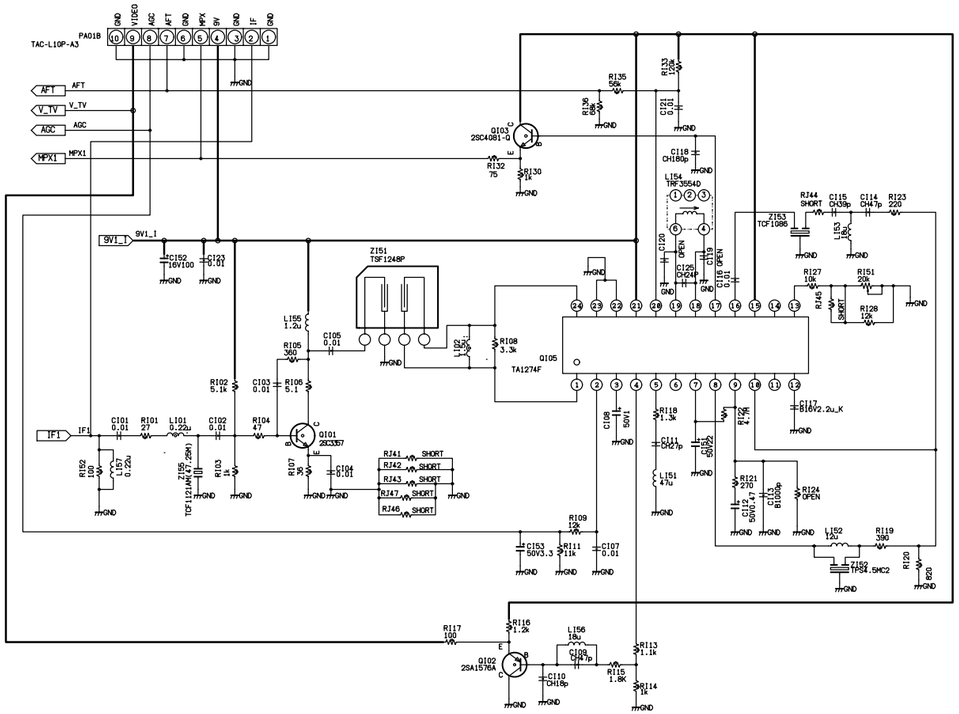


32AF43/32AF53
CRT DRIVE

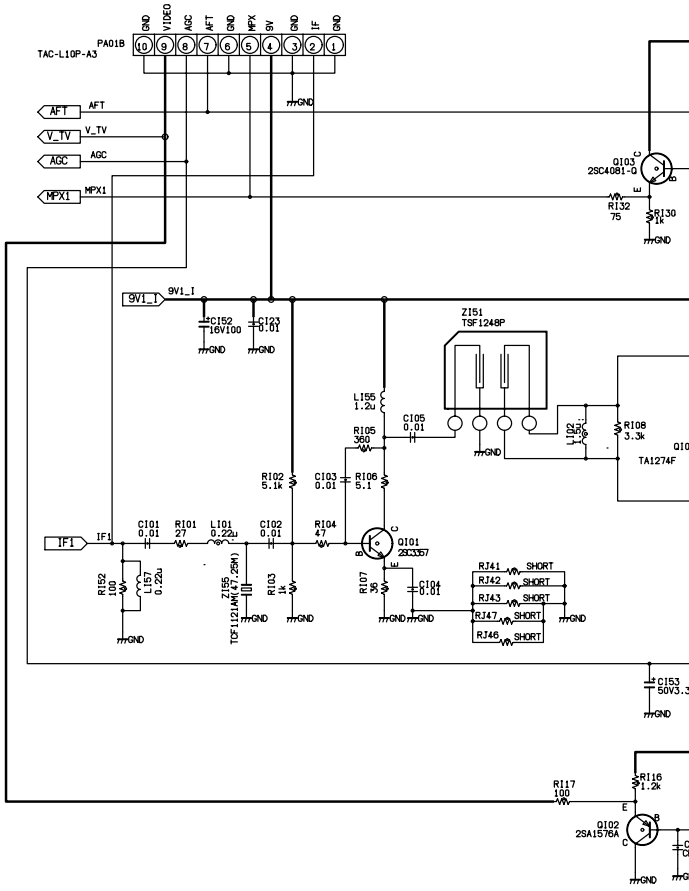

U901
150V(p-p)(H)
125V(p-p)(H)
3.5V(p-p) (H)
3.4V(p-p) (H)
3.6V(p-p) (H)
D975 OPEN
R982 1/6P100
Q920 KTC3198Y
Q921 KTC3198Y
Q922 KTC3198Y
Q923 KTC3198Y
Q924 KTC3198Y
Q925 KTC3198Y
R947 1/6P10k
R948 1/6P10k
R949 1/6P10k
R978 1/6P1k
C970 16V47
C971 16V47
C972 16V47
R979 1/6P1k
R998 1/6P4.7k
R999 1/6P4.7k
TP-46R
TP-46G
TP-46B
RED CUT OFF
GREEN CUT OFF
BLUE CUT OFF
GREEN DRIVE
BLUE DRIVE
P902
7P_2.5mm_1.5A_Beige
9V1
R
G
B
GND
GND
VM
M902
To SIGNAL
23368581G
GND
MAIN_B
12V
M701
To DEF/PWR
MAIN_B
NC
GND
12V
PLUG 4P
P701
L908 10
+9V-1
R977 1/6P1.2k
R935 1/6P820
R934 1/6P390
C913 16V10
R933 1/6P75
R936 1/6P75
C910 0.47
R714 1/2R 120
C707 16V100
C704 0.01
KTC3198Y

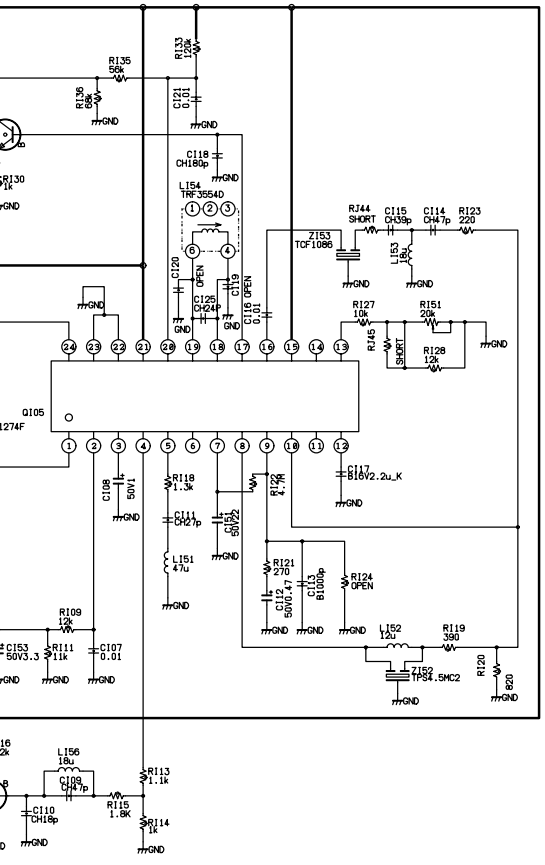


32AF43/32AF53
CRT DRIVE



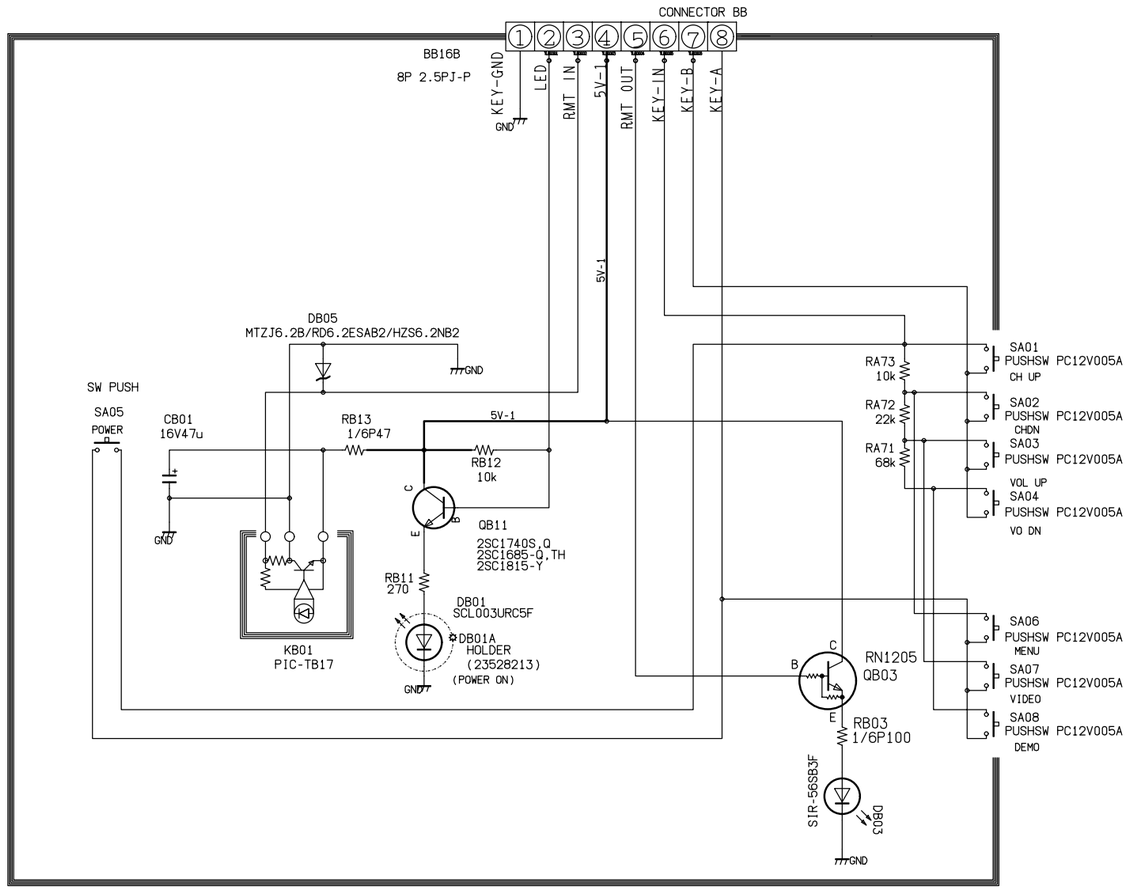
32AF43/32AF53
IF


PA01B
TAC-L10P-A3
GND
VIDEO
AGC
AFT
GND
MPX
9V
GND
IF
GND
AFT
V_TV
AGC
MPX1
9V1_I
IF1
QI03
2SC4081-Q
R132
75
RI30
1k
CI52
16V100
CI23
0.01
ZI51
TSF1248P
L155
1.2u
CI05
0.01
R105
360
R108
3.3k
TA1274F
R102
5.1k
CI03
0.01
R106
5.1
CI01
0.01
RI01
27
LI01
0.22u
CI02
0.01
R104
47
QI01
2SD357
R152
100
LI57
0.22u
ZI55
TCF1121AM47.25M1
R103
1k
R107
36
CI04
0.01
RJ41
SHORT
RJ42
SHORT
RJ43
SHORT
RJ47
SHORT
RJ46
SHORT
CI53
50V3.3
RI16
1.2k
RI17
100
QI02
2SA1576A

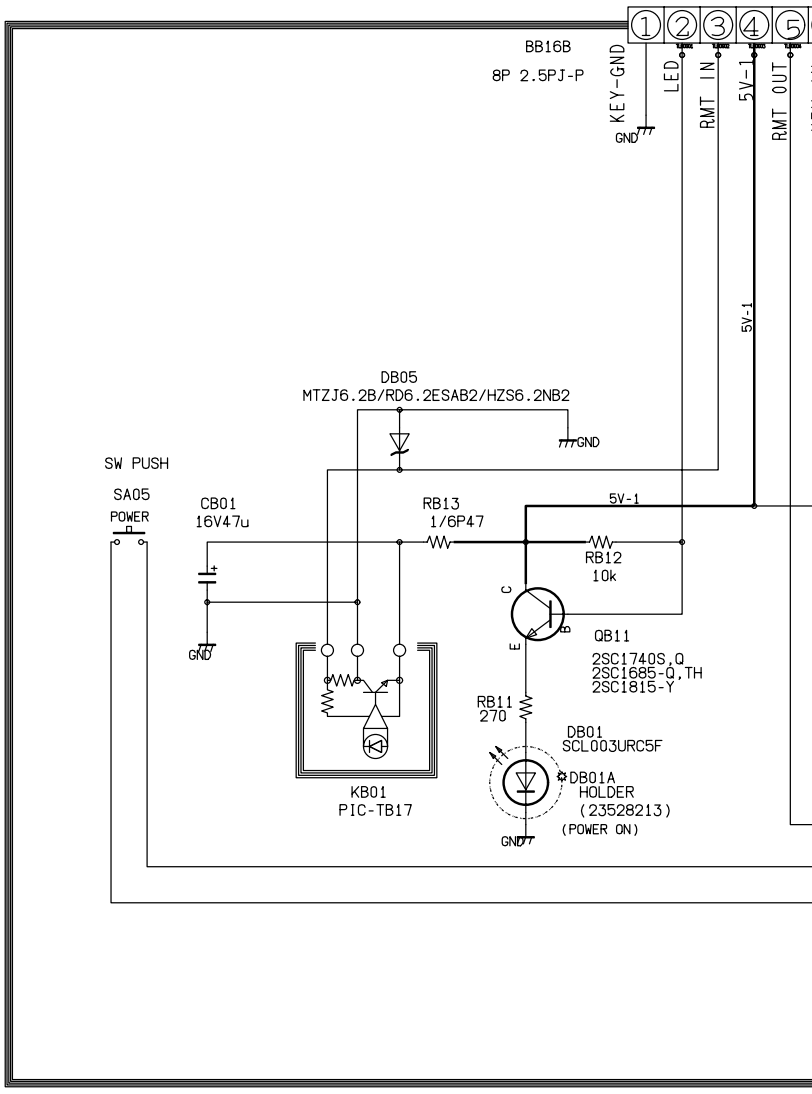


32AF43/32AF53
IF

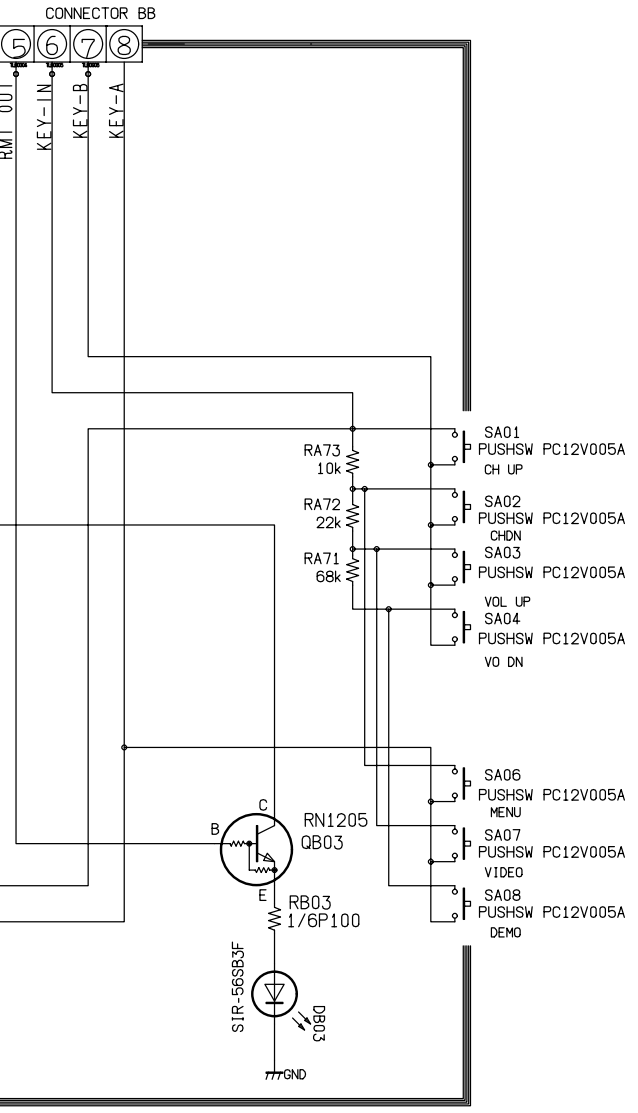
To CONT-2



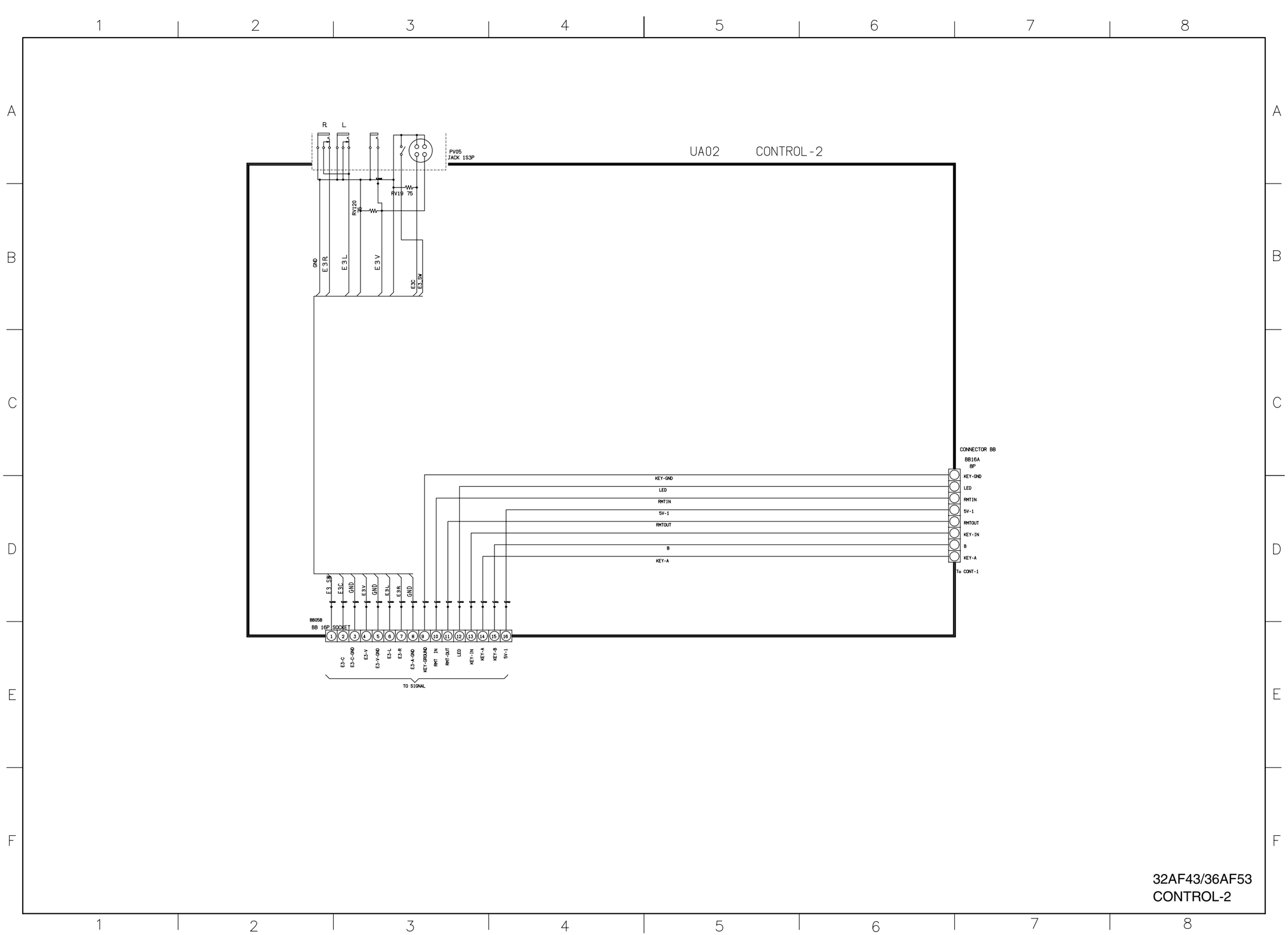
32AF43/32AF53
CONTROL-1


BB16B
8P 2.5PJ-P
KEY-GND
GND
LED
RMT IN
5V-1
RMT OUT
5V-1
DB05
MTZJ6.2B/RD6.2ESAB2/HZS6.2NB2
GND
SW PUSH
SA05
POWER
CB01
16V47u
GND
RB13
1/6P47
5V-1
RB12
10k
C
B
E
QB11
2SC1740S,Q
2SC1685-Q,TH
2SC1815-Y
RB11
270
DB01
SCL003URC5F
DB01A
HOLDER
(23528213)
(POWER ON)
GND
KB01
PIC-TB17

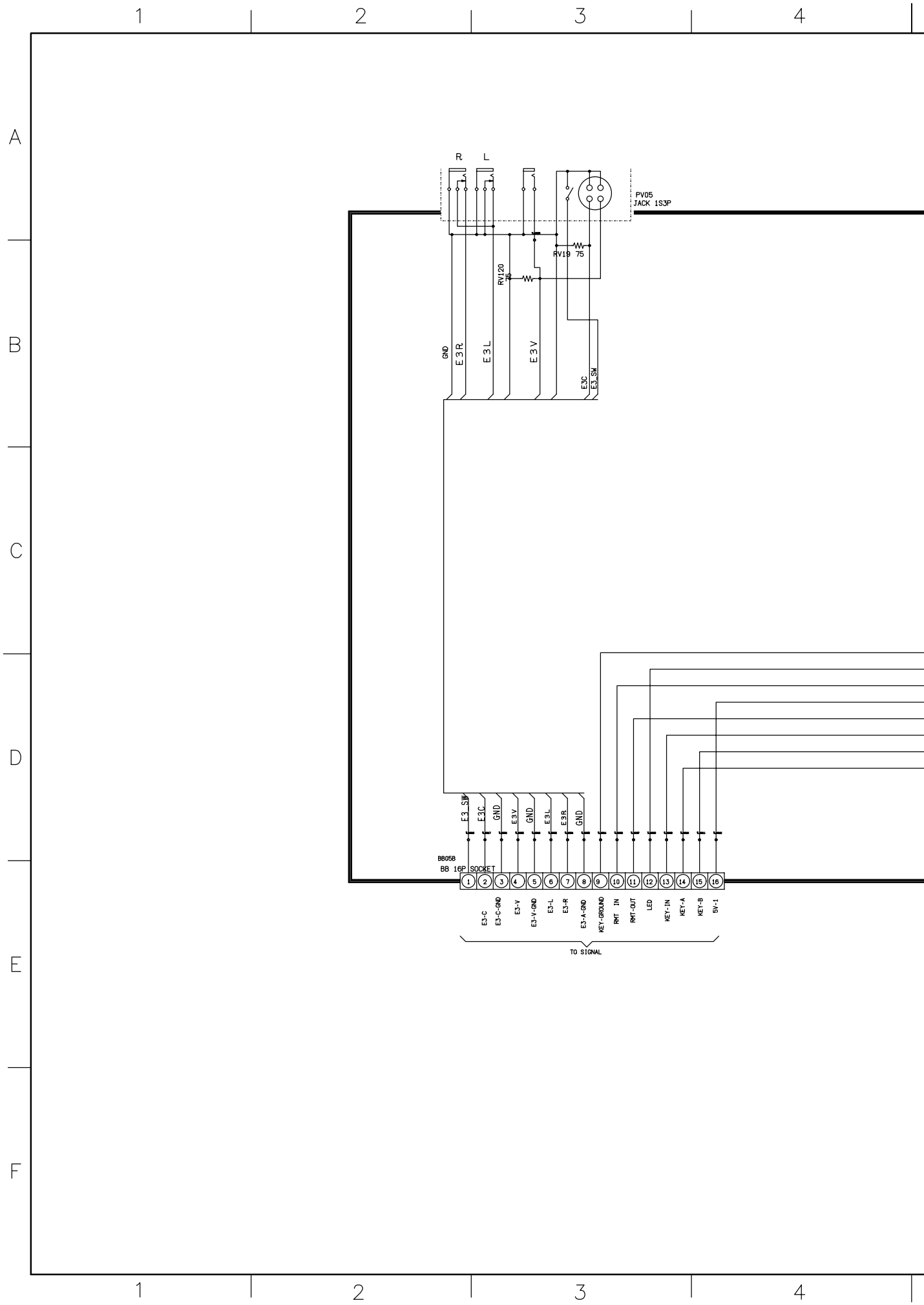
CONT-2



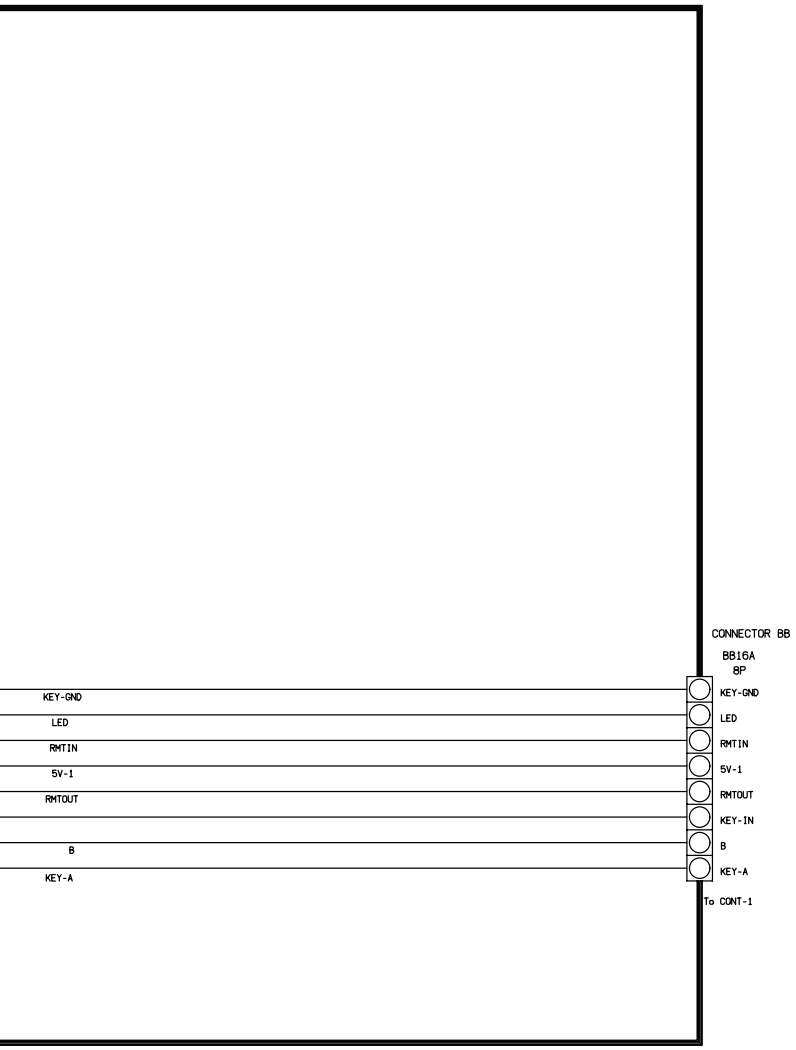
32AF43/32AF53
CONTROL-1



32AF43/36AF53
CONTROL-2


R
L
PV05
JACK 1S3P
RV19 75
RV120 75
GND
E3R
E3L
E3V
E3C
E3_SW
E3_SW
E3C
GND
E3V
GND
E3L
E3R
GND
BB05B
BB 16P SOCKET
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
E3-C
E3-C-GND
E3-V
E3-V-GND
E3-L
E3-R
E3-A-GND
KEY-GROUND
RMT IN
RMT-OUT
LED
KEY-IN
KEY-A
KEY-B
5V-1
TO SIGNAL

UA02 CONTROL-2



5 6 7 8